

**DEVELOPMENT OF A MODEL FOR OBJECTIVE ASSESSMENT OF  
ADVANCED LIFE SUPPORT PERSONNEL**

Strategic Management of Change

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An applied research project submitted to the National Fire Academy  
as part of the Executive Fire Officer Program

June 1998

## **ABSTRACT**

Many departments are faced with challenges of evaluating personnel for operational readiness, whether they are new hires or new volunteers. Utilizing a program that fairly, equitably and comprehensively evaluates these personnel is essential to providing quality service. The City of Fairfax Department of Fire and Rescue Services did not have such a program. The problem was a tool did not exist that allowed supervisors to objectively evaluate advanced life support (ALS) personnel for operational readiness within the department.

The purpose of this applied research project was to develop an evaluation tool that provided for an objective assessment, for operational readiness, of ALS personnel in the department.

This research project used a descriptive methodology in examining the current process of determining operational readiness. The result of this research was action oriented in developing a model program for an objective assessment tool for ALS personnel. This objective assessment would be measurable, consistently applied across all work groups, and result in personnel being certified as minimum staffing on the ALS units. This research project resulted in a clear description of the duties, knowledge, skills and abilities of a paramedic that are necessary to effectively operate in an emergency environment.

The following research questions were developed to guide this process:

1. What are the knowledge, skills or abilities (KSA's) necessary to be an effective ALS provider?
2. What are the objective criteria that need to be applied to each of these KSA's?
3. What process should be applied to effectively evaluate ALS personnel?

A work group, consisting of key supervisors within the department, was used to develop this process, and subsequent manual. Using various processes, including brainstorming, a comprehensive list of KSA's was developed. Objective criteria were developed for each essential skill function, resulting in measurable criteria that would be used as an evaluation tool. The workgroup obtained direct comments and feedback from all shift members to solicit ideas, suggestions and eventual support for the program.

The result of this work was the creation of a comprehensive ALS Intern manual. This manual was approved for use, within the department, by all facets of the organization. This model was then used to develop subsequent models of performance assessment.

The key to the continued success of this process is the continual updating of the various skills sheets and requisite knowledge objectives used by ALS personnel. As technology improves the tools used by these personnel, the process for evaluating them must keep pace.

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## INTRODUCTION

The City of Fairfax Department of Fire and Rescue Services (Department) began utilizing paramedics in its delivery of pre-hospital Emergency Medical Services (EMS) since its inception in early 1978. However, there has not been a comprehensive, objective process or system in which to critically quantify or assess when a new paramedic intern was ready to be cleared for minimum staffing. A determination of staffing readiness was usually made by a paramedic's supervisor or evaluator based upon instinct or "gut feeling" that they were "ready".

The problem with this past process was that the determination of operational readiness varied greatly between supervisors. The impact was that a tool did not exist to objectively evaluate Advanced Life Support (ALS) personnel for operational readiness within the City of Fairfax Department of Fire and Rescue Services.

The purpose of this applied research project was to develop a comprehensive model for objective assessment of paramedic personnel to determine operational readiness within the City of Fairfax Department of Fire and Rescue Services. This comprehensive manual would then be submitted to the department for inclusion into its ALS program.

This research project utilized a descriptive methodology in examining the current process of determining operational readiness. The result of this research was action oriented in developing a model program for objective assessment of operational readiness of ALS personnel within the City of Fairfax Department of Fire and Rescue Services. This research project resulted in a clear description of the duties, roles, knowledge, skills and abilities (KSA's) of a paramedic; an evaluation of the various skill criteria for successful paramedic field delivery; and the development of an internal ALS Intern manual for use in the department.

In order to fully analyze the current situation and develop this comprehensive ALS Intern manual, the following research questions were developed:

1. What are the requisite knowledge, skills or abilities (KSA's) necessary to be an effective advanced life support provider?
2. What are the objective criteria that need to be applied to each of these KSA's to determine operational readiness and competency?
3. What process should be applied to effectively evaluate advanced life support providers?

This research project intended to analyze these questions and develop a comprehensive means to assess whether or not a person is operationally ready to assume the position of minimum staffing on an ALS unit. This tool would be in the form of a manual. This manual would then be utilized and applied to all department personnel as they began their ALS internship.

## **BACKGROUND AND SIGNIFICANCE**

The City of Fairfax Department of Fire and Rescue Services (Department) is a combination career and volunteer municipal based system of dual role, cross-trained personnel. The Department was created in early 1978 after the City of Fairfax (City) concluded its contract with the surrounding Fairfax County to provide personnel. In the department's earliest developmental stages, personnel were recruited from across the country to staff the operational units. Currently, the Department consists of 61 career and approximately 30 active volunteer personnel. These personnel staff two engine companies, one ladder company, two ALS medic units and a battalion chief. Three personnel staff the engine and truck companies, while two

people staff medic units. One person covers the position and function of the duty battalion chief.

Career personnel are assigned to one of three rotating shifts, working a 56- hour week.

Volunteer personnel are utilized to augment existing staffing. Volunteers are recalled to cover for leave and are used in minimum staffing positions on all operational units. This creates a situation whereby all personnel, career and volunteer, should be trained and evaluated to the same level of competency.

The staffing levels of the emergency medical services (EMS) units are two personnel. Typically, one ALS person drives, while the other ALS person performs the duties of the Aid Officer in Charge (Aid/OIC). In order to maintain proficiency of the variety of skills necessary to be an effective provider, personnel typically rotate the duties between themselves, either on alternate days that they work, or by splitting the 24 hour shift into two segments of 12 hours each. By utilizing a system of EMS units staffed by two people, each person, and their skill level, is essential to the delivery of quality EMS care. Each member must perform the requisite KSA's in a proficient and effective manner. Assessing those KSA's for new members has been difficult and fraught with variances in application.

There has not been a system to objectively evaluate operational readiness for personnel assuming functional positions on ALS tactical units. Personnel often were placed into these positions with either no assessment whatsoever, or simply a cursory review of didactic information. This approach often led to a varied assessment of personnel. What one supervisor might find acceptable, another would assess as not being operationally ready. These assessment levels often were in direct relation to a supervisor's personal beliefs or opinions about what was considered acceptable. One particular supervisor might have exceedingly high standards, and thereby apply those same expectations to those he might evaluate and supervise. Another



supervisor might have lower standards, and while meeting the department's expectations of customer and service delivery, they would not be in concert with the other supervisor.

As the department continued to evolve over the years, and new career and volunteer members were added to ranks of field providers, many conflicts arose from these loosely structured standards. Especially in a combination system, each segment expected identical standards. The volunteer segment would often attempt to rush, or push an individual through to become operationally ready, thereby increasing volunteer staffing, and documented riding hours. Similarly, a newly hired member of the career segment of the department would be expected to fill a staffing position as quickly as possible in order to reduce overtime associated with the previously vacant position. Since the standards by which an individual was considered "ready" were never formally documented, conflicts arose when it appeared that a member was not being turned over in a timely manner. A supervisor was only able to defend his or her actions by stating that the member was not ready, and was unable to formally document a timetable or plan of action in which the member could become qualified. In addition, when a member being evaluated experienced difficulties in their internship, they often times were left to their own devices to determine what was an acceptable level of performance, since no one single document clearly outlined what was expected of them.

In order to develop and implement a program whereby an individual could be effectively mentored and evaluated in an objective manner, significant procedural and process changes needed to be affected. The process of evaluating the current internship process and developing an ALS Intern Manual would require significant "buy-in" from all levels of the organization. The steps of implementing the various phases in the change management model, as covered in the National Fire Academy's "Strategic Management of Change", Chapter 2, were used as a

guide. These steps would need to be effectively used to optimize the outcome and acceptance by the membership and leadership within the organization of a formal, objective ALS Intern process. Early involvement in the process, by all levels of the organization, clearly would create an open dialogue and communication process that would serve to benefit the department and the eventual implementation of the manual.

## **LITERATURE REVIEW**

Literature on qualitative assessment of skill performance remains scarce. While there are many texts on the market that relate to Emergency Medical Technician (EMT) and Paramedic training, most provide only a simplified checklist of skills. “There are two categories of skills, simple skills and compound skills. The difference is based upon the number and type of steps in each, not on their ease or difficulty to perform” (Butman, Martin, Vomacka, McSwain, 1995). “It is a common belief that a skill is learned simply from seeing it demonstrated and then practicing it until one is proficient” (Butman, et al., 1995). “Evaluation of skills is important to EMS and to the agencies that oversee its activities” (Perkins, 1990). The ability to objectively assess the competency of these skills is critical to the effective and comprehensive internship of a new ALS provider. Many texts refer to a mentoring program as the basis for assessment of skills for paramedic personnel.

The field training phase, or internship, should allow the student to apply and refine the knowledge and skills learned in the classroom and hospital, learn field-specific techniques for patient care and prepare for the safe practice of pre-hospital medicine. By understanding these goals and undertaking a plan to achieve them, the program developers provide students with every opportunity for success (Giannini, 1991).

The Novato Fire Protection District in northern California has been using a program for mentoring its fire officers within their department since 1986 (Meston, 1990). The New Haven (Connecticut) area has used a mentoring program for its paramedic students since 1992 (Krochmal, Moore, Shea, 1995). Giannini goes on to state that "The field internship is the final and most critical phase of training for the paramedic student" (1991). "The outcome of any effective EMS training program is twofold: improved patient care and increased confidence on the part of the EMT in the delivery of that care" (Jones-Hall, 1989). The ability to effectively assess the quality of that care, however, can be very subjective, in the absence of criteria to evaluate patient care and skills. To demonstrate this point, take the case of a small industry that attempted to train all its employees in Cardiopulmonary Resuscitation (CPR). "All participants met the necessary criteria for Red Cross certification and, in the instructor's opinion, were competent in first aid" (Osborne, 1989).

Current texts in the EMS industry are typically of little benefit when it comes to objectively assessing skill provision. In the Brady textbook *Prehospital Emergency Care and Crisis Intervention* (1992), Haffen and Karren describe the necessary requirements of an EMT. "An EMT must acquire, through critiques and conferences with emergency-department personnel, constructive criticism of care rendered and instruction about advances in patient care and new or improved equipment". However, this textbook does not provide any objective criteria with which to assess an EMS provider and whether or not they are competent in their skills. This noticeable absence of industry standards for the objective assessment of skill provision underscored the absolute need to develop such a model for use within the department. However, the findings and discussions of these authors suggested a course of action that influenced the author in the development of the ALS Intern Manual. Key to the success of a

comprehensive ALS Intern manual would be the clear definitions of the roles and responsibilities of each key player, specifically the intern and the mentor. Using the skills sheets developed by Alexander Butman and his colleagues, a basis of developing the objective assessment tools was formed.

## **PROCEDURES**

The development of the ALS Intern Manual followed a specific set of steps towards the eventual implementation within the department. The intent of the project was to begin utilization of an ALS Intern manual as an assessment tool with the hiring of two new personnel in early 1998. Early development included discussions with the Department's Operation Medical Director (OMD). His guidance and buy-in was essential, since it was he who provided all medical oversight and approvals of personnel riding as minimum staffing. These discussions included the need to standardize the process by which ALS personnel were turned over as minimum staffing. This discussion was done by the author in his role as the Administrative Battalion Chief in charge of the EMS system.

In addition, early in the development stage, the insight and feedback from all ALS personnel who would be serving the role of mentor for all interns was sought. This population included all current, active ALS providers with five or more years of experience within the department. This population was limited to career personnel on the three rotating shifts. Volunteers were excluded from serving as mentors, with the unanimous agreement of the volunteer leadership. This was felt to be essential due to the fact that the career ALS providers were more experienced both in years of service and call volume. The frequency of riding and experiencing a wide variety of emergency situations was felt to be beneficial to serving in the role of mentor. This selection was felt to be necessary in order to take advantage of the wealth,

depth and varied experience of these providers. These twelve people served to provide suggestions on the KSA's required to be assessed, while also providing criteria for the objective assessment of these KSA's.

In developing what would serve as the master list of requisite KSA's, the facilitator led the group in a brainstorming session. This session served to generate a listing of any and all of the necessary knowledge, skills and abilities required as a practicing paramedic serving in a minimum staffing role.

Since the department utilized a Quality Council as the oversight and authority for program approvals, the author presented an outline of the scope, objectives and purpose of the ALS Intern Manual to them for discussion and concept approval (Appendix 1).

For the purposes of initial planning and development, the three shift EMS Captains and the Volunteer EMS Assistant Chief were used as a work group, in conjunction with the author serving in his role as the Administrative Battalion Chief and facilitator. During this initial phase of development, discussions within this group consisted of designing the overall framework of the ALS Intern program. This framework would include who would be eligible to be considered as an ALS Intern, and how they would relate to the mentor. This framework also delineated the specific roles and responsibilities of each person, as either mentor or intern.

Input from this group also served to identify and define past and current problems with the process of turning people over as ALS minimum staffing. All participating members were provided drafts of documents created during these processes. Frequent work sessions were utilized to generate continued discussions and provide opportunities for each person to present their individual ideas to the group.

After defining the requisite numbers of skills, the work group spent a considerable amount of time attempting to describe the objective criteria by which successful candidates would be measured. This process was both very labor and time intensive, but served to bring together what had been a wide margin of opinions held by the shift EMS Captains. In an effort to save time and increase work productivity, each shift EMS Captain was given a grouping of like-type KSA's with which to work. This individual work was then brought back to the group for continued discussion.

Based upon the work of this group, the internship program was broken down into nine specific areas. These areas served to outline the entire ALS Intern program. They are as follows:

- Introduction
- Field Internship Requirements
- Daily Performance Evaluations
- Formal Evaluations
- Internship Extension
- Knowledge, Skills and Abilities Evaluation
- Intern Responsibilities
- ALS Intern Mentor Responsibilities
- Internship Orientation Agreement

Each section was then further developed. Key aspects of the internship were clearly defined and outlined within their respective section.

## **Introduction**

The purpose of an ALS Internship program was defined within this section (Appendix B, section I). The stated purpose was to provide information for the paramedic/cardiac intern to assist in the successful completion of his/her internship. These criteria were developed to ensure that all individuals providing out-of-hospital care at the ALS level have received appropriate training, and are capable of providing safe and competent care on a consistent basis.

Each intern would be assigned a primary person to serve as the lead evaluator, tutor and mentor. These mentors would be approved in advance by the Administrative Battalion Chief, in conjunction and coordination with the Department's Operational Medical Director.

## **Field Internship Requirements**

The ability to perform as an intern was defined (Appendix B, section II) as successfully completing the following three components:

1. The didactic portion of an accredited ALS training program
2. Completing the required clinical rotations
3. Successfully passing the National Registry Paramedic or Virginia State Cardiac Care Technician examination

The term or length of the internship was also defined. In general, a three-month period of time, broken down into three 30-day periods would comprise the internship. Clear definitions of a successful completion of the internship program were also listed. An ALS Intern would be expected to successfully complete the following in order to be considered for ALS minimum staffing:

1. They must document a minimum of 30 EMS incidents that they responded to, and provided ALS treatment or assessment on at least 10 of these patients.

2. They must ride a minimum of three months as an intern, however, due to high call volume or the ability to practice a wide range of ALS skills this time may be shortened.
3. The intern must submit the completed ALS Intern Manual to the Administrative Battalion Chief, documenting the following:
  - All EMS Patient encounter forms, demonstrating the ability to provide comprehensive, accurate and complete documentation
  - Thirty daily performance evaluations
  - 3 formal evaluations
  - The completed KSA form
4. The intern must receive a satisfactory evaluation from their mentor with a minimum rating of 3
5. The intern must submit the completed ALS Intern manual for approval by the Operational Medical Director

Upon satisfactory completion of the above items, and with the approval of the Operational Medical Director, the intern may then serve as minimum staffing on an ALS unit. Failure to successfully complete any portion of the ALS Intern Manual would result in the intern being suspended from practicing ALS skills in the department.

### **Daily Performance Evaluations**

To comprehensively assess the progress and development of the intern, a system of daily evaluations was developed. This form (Appendix B2) utilized a systematic tracking record of all emergency responses in which the intern was present. The expectation of the intern process was



for the mentor to complete a record for each day, documenting and providing feedback on each patient encounter. Information such as the type of call (Advanced versus Basic Life Support), specific duties, skills or actions that the intern completed, along with a numerical score rating the intern on each category using the following rating scale:

1. Improvement Needed
2. Borderline/Inconsistent
3. Competent
4. Above Average

At the conclusion of each daily performance, the intern would then be evaluated, using the same rating scale, on 6 broad categories:

1. Safety
2. Patient assessment skills
3. Communication skills
4. Demeanor/Teamwork
5. Treatment skills
6. Equipment/Supplies

The mentor would also be expected to provide a clear, written accounting of a specific plan for improvement for any deficiencies noted. The mentor would meet with the intern, discuss the results of each daily evaluation form, and both parties would sign the form. This was felt by the planning and development group to be beneficial in ensuring constant communication between both parties. A minimum of thirty of these completed daily evaluations would be

required during the internship. This was in order to ensure, as much as practical, that every opportunity would be presented to allow the intern to practice his/her skills under the supervision of a mentor. It also served as a document record to track progress, as well as to note an intern that may be continuing to demonstrate problems. The daily evaluation process was described within the manual (Appendix B, Section III).

### **Formal Evaluations**

The formal evaluation section was developed to compile the accumulated data, scores, and remarks for the past thirty days that the intern had been riding. Utilizing a standard form (Appendix B3), the mentor would document, in much more detail, how the intern had performed during the rating period. The key to the success of the ALS Intern Manual was felt to be the companion document that provided objective criteria on how to evaluate and assess the ALS intern. Using the same 6 categories that were evaluated on each daily evaluation form, the mentor would use the formal evaluation standards (Appendix B4) as a tool to provide a numerical rating. During the development of this rating schedule, EMS Captains, field EMS providers, the operational medical director and administrative personnel spent countless hours creating a clear, identifiable and objective system for ranking or rating personnel performance. Within each broad category, critical performance indicators were discussed within the group. Using a consensus building process, group approval for inclusion and/or exclusion of criteria was essential. No one idea was considered bad or worthless, while all ideas were brought to the table for discussion.

Using a rating or scoring system of 1 through 4, measurable and objective criteria were developed for each of the critical performance indicators. A score of “1” corresponded to the same scoring used in the daily review form, or “Frequently fails to perform procedure in a

competent manner”. Within each critical performance indicator, however, further clarification was developed to guide both the mentor and the intern on establishing what was the department expectation. As an example, within the category of “Personal safety and patient interaction”, a critical performance indicator was listed as “Performs all skills in a safe and appropriate manner. Recognizes potentially hazardous situations” (Appendix B4, page 55). The work group established a process to further define what would be the department’s and operational medical director’s expectations for performance. Using a best case/worse case process, the work group determined what would be absolutely unacceptable, and what would be exceeding all expectations. Once established, the two middle categories were easier to define. For the above-mentioned category, the exceeded expectation criteria would be “Consistently performs in a safe and effective manner”. The deciding factor that would separate this rating from the next lowest rating was the ability of the intern to perform in this manner without any prompting from the mentor. For performing at this level, the intern would be assigned a rating of “4”, or above average.

Each and every category, and the associated critical performance indicators, was then addressed in a like manner.

A section was added to the formal evaluation that provided an opportunity for the mentor to write additional comments, directly related to each of the critical performance indicators. In addition, the formal evaluation process was described within the manual (Appendix B, Section IV).

### **Internship Extension**

Recognizing that inevitably some interns may not be able to successfully complete all required tasks within the allotted time frame of 3 thirty-day segments, a system or process of an internship extension was felt to be necessary. This extension would be based upon a discussion between the assigned mentor, the Administrative Battalion Chief and the Operational Medical Director. Based upon the outcome of this discussion, a written plan for improvement would be developed and discussed with the intern. Some examples of reasons that an internship may be extended included difficulties with performing specific skills; inability to appropriately interact with the patient; poor communication skills; inadequate number of patient contacts or a prolonged absence from participating in an intern capacity. These criteria were jointly developed with the work group, consisting of career and volunteer leadership, as well as all designated mentors (Appendix B, Section V).

### **Knowledge, Skills and Abilities**

Using a brainstorming process, the development workgroup created a master list of any and all necessary knowledge, skills or abilities (KSA's) that a paramedic intern would need to be competent in to serve as minimum staffing on an ALS unit. This task developed a list that included everything from performing first day checks of the medic unit to performing the advanced skill of endotracheal intubation. This comprehensive list was then categorized as a knowledge, a skill, or an ability that the intern had to demonstrate proficiency in. Before proceeding, the development workgroup published a draft of the list and circulated it to all currently practicing ALS providers and the operational medical director for review. Comments were received and included, as appropriate, to complete the task of developing a comprehensive list (Appendix B5).

Once completed, the list of “skills”, included within the KSA list, were further clarified and provided a step-by-step guide for all members to follow. This process was developed and included as part of the ALS Intern manual in an effort to standardize the skill performance for all ALS providers. In Butman, et al. (1995), the text *Comprehensive Guide to Pre-Hospital Skills* provided a framework of skills sheets for the work group to both model and use. For those skills that a reference skill sheet was provided in the text, some minor modifications were done in order to provide department specific terminology or practice. Where a specific skill sheet was not provided in the text, a representative skill sheet was developed by the workgroup. These skill sheets served to form a standardized practice for all existing and future ALS providers to model their practice after (Appendix B6). A total of forty-one skills sheets were developed that encompassed all pertinent ALS skills performed by City of Fairfax Fire and Rescue paramedics. The process for completing these skill sheets was defined and included in the manual (Appendix B, Section VI).

### **Intern Responsibilities**

In developing the ALS Intern manual, the workgroup felt strongly that the two principle players in the intern process, the intern and the mentor, should have clearly defined duties and responsibilities. The scope of the duties for the intern included riding the necessary period of time in order to complete all the required tasks, as well as completing the necessary daily reviews. Skill performance and satisfactory demonstration of the knowledge and ability components of the internship were clearly described (Appendix B, Section VII).

### **ALS Intern Mentor Responsibilities**

Clearly, the workgroup felt that the mentor also had a significant responsibility for the successful completion of the internship process. The mentor would serve not only as a guide and

teacher, but would perform the challenging task of documenting all performance of the intern. Included in these tasks was the responsibility of imparting department policies, reviewing operations procedures, and ensuring quality of patient care. By having these duties and responsibilities clearly defined and outlined in the manual, each party was able to identify not only their own performance expectations, but what duties the other person held in the internship process (Appendix B, Section VIII).

## **RESULTS**

The results of the development of the ALS Intern manual have been extremely positive. Since the development of this evaluative tool, a total of 8 ALS providers have successfully completed the intern process.

Through the process of working with the numerous ALS providers and supervisors within the department, the various knowledge, skills and abilities required to serve as minimum staffing were identified. Through a brainstorming process, a total of fifty-four different areas of knowledge assessment, skills that needed to be assessed for proficiency, or abilities that the ALS intern needed to demonstrate, were developed (Appendix B5). This particular process served to answer research question # 1: “What are the knowledge, skills or abilities (KSA’s) necessary to be an effective advanced life support provider.”

For each of these listed skills, a specific, measurable and standardized skill sheet was developed. This tool provided an opportunity for both mentor and intern to objectively evaluate the demonstrated skills (Appendix B6). In addition, a standardized process of evaluating intern performance was developed, with objective and measurable criteria associated to each of the critical components that would be evaluated. By having this benchmark, or clearly worded, easily measurable criteria for the mentor to use, an intern could now be objectively rated. This

rating and evaluating tool also served to provide inter-rater reliability between the various shift mentors (Appendix B4). This process served to answer research questions # 2, “What are the objective criteria that need to be applied to each of these knowledge, skills or abilities?”

The process used to place these tools together in a comprehensive manual was developed by the workgroup assigned this task. After development of the key KSA’s and associated evaluations, the group spent approximately three weeks putting together the overall process. This included identifying who were potential candidates to be an intern, along with minimum criteria to be considered. A process of identifying whom the mentors would be was established early in the process. This was in order to provide the consistency of evaluation, and was determined to be the senior shift EMS person. The process for submitting required documentation of emergency runs, skills performed, and key player responsibilities was also outlined (Appendix B). This served to answer research question # 3, “What process should be applied to effectively evaluate advanced life support providers”.

The final product, *The City of Fairfax Department of Fire and Rescue Services ALS Intern Manual*, was presented to each of three shifts for direct feedback and comment. In addition, the draft manual was presented to the volunteer leadership and membership for equal comment and feedback. Once reviewed by the general membership, the draft manual was presented to the Department's Quality Council. All comments received were taken into account and, as appropriate, included in the final document. The final document was once again presented to the Quality Council, and final approval was given to include this manual as the tool to assess and evaluate ALS Interns.

## **DISCUSSION**

In analyzing the results of the developmental process, it was clear that all providers within the department felt that a more standardized process needed to be in place to evaluate potential ALS personnel. Many felt that there was little, if any, clear direction on what was to be considered the department's expectation to be considered as minimum staffing for a two person ALS unit.

When comparing these findings with the literature review, this was not surprising. Many texts included a wide range of check sheets, bulleted steps to perform, and the like. However, no one text had any measurable criteria with which to objectively evaluate the multitudes of skills, knowledge and abilities that needed to come together under the watchful eye of a field mentor. Giannini discussed the development of a mentor program, and the various approaches needed for a successful program (1991). The lessons learned in his program development assisted in providing additional training for the department mentors, however, the research was unable to discover definitive, measurable criteria with which to assess the functionality of a paramedic. Recognizing that the majority of people that would enter the ALS intern program would be in their early twenty's to thirty's, the work group realized they would have to provide training in a different manner. The way in which these adults would learn would require techniques that took into consideration that adults learn differently. Jones-Hall discussed the specific ways in which these adults learn differently, and those techniques were instrumental in the development phase of the program (1989).

The organizational implications of the development of an ALS Intern manual have been more profound than first imagined. In providing discussion and review sessions with all personnel, it was apparent that a considerable amount of work had been put into the manual.



This, by itself, tended to garner support from the work force. This support primarily was due to the fact that all levels of the organization had an opportunity to provide comment and feed back into the outcome of the process. Secondly, the first applications of the manual, and process, were more successful than planned. The first two candidates into the program were new hires that had recently completed paramedic training. This would be the department's opportunity to test the principles upon which the intern program was founded. As defined, the intern program was structured around 3 thirty-day periods. These two candidates successfully completed all components of the program in thirty days. At first this caused some concern about whether or not the periods of time were too long. After much discussion, it was agreed that this short period of time was, in part, attributed to the fact that these two people were on shift work, and by working a fifty-six hour week offered a lot of opportunity to practice skills and demonstrate proficiency.

In contrast, the first volunteer candidate placed into the program exceeded the 3 thirty-day periods, and required a thirty-day extension in order to complete all components.

After these initial successes, the department's Quality Council began to look at the principles and practices upon which the ALS Intern program was established. Other opportunities to apply these same principles began to take shape. Subsequently, all personnel training programs are now developed around the mentor-intern concept, with clearly definable and measurable criteria being established first. Some examples now include the minimum staffing/suppression training program; the officer development program; and the command level officer development program. The initial successes of these programs have reinforced the concept of creating clearly defined standards, communicating them to the work force with an opportunity for constructive comments and feed back, and establishing easily identified and

measurable criteria with which to evaluate the new paramedics, suppression personnel, or officers of tomorrow.

Subsequent to the implementation of additional manuals for measuring objective performance, the department also began applying the basic tenets of the ALS Intern manual to all operational personnel. By identifying those criteria, within the manual, that applied to basic life support (BLS) providers, a similar document has now become a required component of the annual performance evaluation.

### **RECOMMENDATIONS**

Clearly, the successful application of this first attempt at developing an intern program has created many more opportunities. The challenge for the future will continue to rest with the process, even more so than the final product. In applying any process whereby personnel will be graded, it has been shown to be extremely beneficial to get those same personnel to buy-in to the concept and product. This early buy-in is most easily accomplished when all levels of the organization are included in the development process. This has been clearly shown to be effective in this case.

In developing an evaluation tool that provides for objective assessment of ALS personnel, it directly solved the problem that existed. By having measurable criteria, standardized among all three shifts and the volunteers, it removed the perception issue of when an individual was ready for operational status.

The challenge for the future will be for the organization to continue this process. An ongoing process needs to be developed to provide opportunities for the organization to update existing manuals. As technology improves, new protocols are developed, or additional skills are

approved by the operational medical director, a process to include these features into the intern process needs to be created.

Future challenges will also face this organization in getting support for future programs. As organizations are continually challenged to “Do more with less”, early support and buy-in from the people that these changes most dramatically affect will be crucial to any success.

## REFERENCE LIST

- Butman, A. M., Martin, S. W., Vomacka, R. W., McSwain, N. E. (1995). *Comprehensive Guide To Pre-Hospital Skills: A Manual For-EMT-Basic, EMT-Intermediate, EMT-Paramedic*. Akron, Ohio: Emergency Training.
- Drick, J. (1996). *Establishing a Mentor and Preceptor Program for the City of Joliet Fire Department, Joliet, Illinois*. (Advanced Leadership Issues in Emergency medical Services Research Paper). (Emmitsburg, MD: National Fire Academy).
- Giannini, M. (1991) A Practical Approach to Paramedic Precepting. *Journal of Emergency Medical Services*. 56-64.
- Hafen, B. Q., Karren, K. J., (1992). *Prehospital Emergency Care & Crisis Intervention*. (4<sup>th</sup> ed.). Englewood Cliffs, NJ: Brady.
- Hall-Jones, J. (1989). Skill Retention: Adults Learn Differently. *Journal of Emergency Medical Services*. 66-72.
- Krochmal, P., Moore, J., Shea, K., Kiessling, M., Blaustein, D., Schriver, J. (1995, April - June). Paramedic Field Instructors: An Approach to Training the Newest Paramedics While Maintaining the Interest of the Most Successful Senior Paramedics. *Prehospital and Disaster Medicine*. 106-109.
- Osborne, G. G. (1989, May). Small Industry Trains Workers In Emergency Response Skills). *Occupational Health & Safety*. 40-46.
- Perkins, K. C. (1990, April). ALS: The Figures Are In. *Emergency*. 52-56.

## **Appendices**

## **Appendix A**

### **Scope, Objectives and Purpose of the ALS Intern Manual**

1. Scope: To be applicable to all personnel, career and volunteer, who wish to be processed and evaluated, to serve as minimum staffing as an ALS provider
2. Objectives: To provide a comprehensive process to objectively evaluate potential ALS providers.
3. Purpose: To eliminate or reduce personal bias, provide objectivity, and develop a process of evaluating ALS Interns that can be measured given specific criteria for all applicable knowledge, skills and abilities.

**Appendix B**  
**ALS Intern Manual**

**CITY OF FAIRFAX**  
**DEPARTMENT OF FIRE AND RESCUE SERVICES**



**ADVANCED LIFE SUPPORT**  
**INTERNSHIP PROGRAM**



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## **I. Introduction**

The purpose of this ALS Intern Manual is to provide information for the Paramedic/Cardiac Intern to assist in the successful completion of his/her internship. All specific requirements for the City of Fairfax Department of Fire and Rescue Service Interns are listed and described in detail. Any questions or concerns should be addressed to the Department's Administrative Battalion Chief.

The City of Fairfax Department of Fire and Rescue Services ALS Field Internship requirements have been developed to ensure that all individuals providing out-of-hospital care at the ALS level have received appropriate training, and are capable of providing safe and competent care on a consistent basis.

To monitor progress and to assist interns as required, each intern will be assigned a Department Paramedic as a mentor. The Administrative Battalion Chief shall coordinate this assignment and processing to the Operational Medical Director. In the case of a volunteer intern, the Volunteer EMS Officer shall be an integral component of this process.

Upon completion of the didactic and clinical phases of ALS training, and successful completion of the appropriate National Registry or State certification exam; or upon entry into the Department as a State certified ALS provider, the ALS person is required to complete a field internship. This is a critical phase of training where the intern applies the knowledge gained to the actual out-of-hospital care situation. This internship also provides the Department with a mechanism to ensure competency to perform in a minimum ALS staffing role. As an ALS intern, the ALS provider will be authorized to perform all ALS skills as prescribed by protocol under the direct supervision of a mentor.

Successful completion of the ALS Internship program is required in order to become qualified as ALS minimum staffing on EMS units and as the ALS provider on suppression apparatus.

## **II. Field Internship Requirements**

Internship status is achieved by successfully completing the following requirements:

1. Didactic portion of an ALS training program
2. Required clinical rotations
3. National Registry Paramedic Exam or State Cardiac Exam

The ALS internship will last approximately 3 months, effective the date that the ALS Intern is approved to enter this program by the Administrative Battalion Chief. During the internship period, each intern will be assigned to ride with an ALS Mentor. A copy of the ALS Internship Manual will then be given to the Intern. This manual is the sole responsibility of the Intern to maintain and keep with him/her at all times. Documentation of all riding times, evaluations, skill sheets, etc. will be maintained in the manual.

Full certification as minimum ALS staffing is achieved when the intern successfully completes the following:

1. Documents a minimum of 30 EMS incidents in which ALS treatment or assessment was performed by the ALS Intern on at least 10 occasions<sup>1</sup>
2. Rides a minimum of 3 months as an ALS Intern (time frame may be less due to high call volume, skill demonstrations and ALS treatments performed).
3. Submits a completed ALS Intern Manual to the Administrative Battalion Chief documenting:
  - A. All EMS patient-encounter forms (Department Patient Assessment form or On-Lines Fire/EMS reports) participated in by the Intern (minimum 30). Quality of these patient reports should clearly reflect the skills performed by the Intern during the call.
  - B. Daily performance Evaluations (30)
  - C. Formal Evaluations (3)
  - D. Completed Knowledge, Skills and Abilities form
4. Receives a satisfactory final formal evaluation from his/her Mentor (minimum rating of 3)
5. Submits the completed ALS Intern Manual for review and approval by the Operational Medical Director.
6. Upon recommendation from the Operational Medical Director, receives approval as minimum staffing from the Chief of the Department.

In the event that an intern fails to pass any portion of the internship, his/her internship status may be extended for up to sixty days. All components must be successfully completed within these sixty days. Failure to successfully complete any portion of the internship at this point may result in the immediate suspension of all ALS practices.

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<sup>1</sup> ALS treatments include initiation of IV's, placing of ET tubes, administration of medications, defibrillation, chest decompressions etc. ALS assessments include utilization of ALS skills to determine the appropriate treatment plan, i.e., EKG interpretation, blood sugar tests, etc.

### **III. Daily Performance Evaluations**

The performance of an intern will be closely monitored and evaluated by a Department ALS Mentor. During the internship, the intern shall be expected to demonstrate, in a field setting, the appropriate application of the knowledge, skills and abilities acquired during the didactic and clinical portions of the ALS training. All ratings shall be based upon adherence to Department EMS Protocols.

Each medical incident involving both BLS and ALS treatments or assessments should be reviewed with the Intern and evaluated as soon as possible following the call utilizing the "EMS Field Intern Daily Review" form (See Appendix A). The Mentor will complete this evaluation. This evaluation session is to be a learning experience for all concerned and participation by all unit members is encouraged. The Intern's strengths and weaknesses are to be discussed during the evaluation session and should include the following information:

1. Scene safety
2. Personal protective equipment
3. Patient assessment skills (including verbal report to ALS OIC)
4. Communication skills (between crew, other providers, medical control, and patient/family)
5. Demeanor/Teamwork
6. Treatment skills (ALS and/or BLS)
7. Use of equipment and supplies

Additional discussions on judgement demonstrated, establishment of priorities, and evaluation of potential hazards is encouraged (what could we have done better, more efficiently, etc.)

At the end of each shift (not later than the end of the following shift), the Intern's Mentor shall summarize the events of the preceding 24 hours (or riding period) on the EMS Field Intern Daily Review form (see appendix A). This form should be returned to the intern for his/her signature and inclusion in the intern's ALS Intern Manual.

### **IV. Formal Evaluations**

Formal Evaluations will be completed at the end of each month of internship by the Intern's Mentor and reviewed by the Administrative Battalion Chief and Operational Medical Director (see appendix B). After this review, the Formal Evaluation will be returned to the Intern for inclusion in the Intern's ALS Intern Manual. The third month evaluation is the final evaluation, unless appropriate documentation is present and a recommendation made to extend the internship. These evaluations should reflect the observations noted on the Daily Reviews and the completed/attempted Knowledge, Skills and Abilities.

An Intern shall attain a minimum rating of 3 (three) in each category on the third month evaluation in order to be eligible for minimum staffing ALS. Department standards have been

developed to both standardize and provide objective criteria for the rating system (see Appendix C, "Formal Evaluation Standards"). It is essential that each evaluation be discussed with the Intern so that he/she is aware of both his/her strong points as well as any weak areas. If the Intern's performance is not satisfactory, a written plan for improvement shall be developed by the Intern's Mentor and reviewed/approved by the Administrative Battalion Chief and Operational Medical Director. The deficiencies must be documented on the formal evaluation in the final summary section. The monthly formal evaluations are to be retained by the Intern in his/her ALS Intern Manual.

## **V. Internship Extension**

An internship may be extended after a formal conference with the Intern's Mentor, Administrative Battalion Chief and the Operational Medical Director. A written plan for improvement shall be developed, identifying specific areas of weakness. The plan for improvement shall be developed by the Intern's Mentor and reviewed by the Administrative Battalion Chief.

Early intervention and proactive leadership should be practiced to avoid an internship extension. An extension should be considered when an Intern shows consistent improvement, but has not yet reached the minimum level of competency required.

An extension of an internship may be recommended for reasons to include, but are not limited to the following:

1. Inability to perform adequate patient assessments
2. Inability to determine appropriate field protocols
3. Inability to anticipate appropriate hospital orders
4. Inability to demonstrate appropriate assertiveness
5. Inability to interact properly with patients
6. Inability to accept constructive criticism/guidance
7. Poor communication skills
8. Indecisive behavior in the field situation
9. Inadequate number of patient contacts
10. Prolonged absence from the field (10 or more cumulative days)
11. Any behavior or extenuating circumstances agreed upon by the Interns' mentor, Administrative Battalion Chief and Operational Medical Director.

## **VI. Knowledge, Skills and Abilities Evaluation**

During the internship period, the intern will be required to complete all sections of the Knowledge, Skills and Abilities portion of the manual (see appendix D). These skill sheets have been developed to standardize and provide objective criteria for the intern to follow with respect to performing any and all ALS skills approved by the Department to be practiced in the field setting.

The Mentor or other approved and designated ALS provider shall review and proctor each skills sheet, or knowledge area for the intern. If the skill or knowledge area is satisfactorily completed

the Mentor or other designated ALS provider shall sign off for each area. If an individual other than the assigned Mentor signs this off, the Mentor shall, upon review of the skill sheet, sign off in the appropriate area. If the Intern does not satisfactorily complete the skill, the areas of weakness shall be documented on the skills summary form and attached to the appropriate skill sheet. This will allow the Intern and Mentor to review the areas of weakness prior to the next attempt to complete this skill area.

When reviewing Knowledge areas, the appropriate Operational Procedures, Manuals, General Orders or Rules and Regulations shall be referred to when assessing competency or knowledge base.

## **VII. Intern responsibilities**

### **A. Evaluations**

- (1) Daily reviews shall be completed prior to the end of the following workday and retained by the intern in his/her Intern Manual.
- (2) Three formal evaluations will be completed by the intern's Mentor (one each month). They will be discussed with the intern and become a part of the intern's ALS Intern Manual following review by the Administrative Battalion Chief and Operational Medical Director. Upon successful completion of the internship, the entire ALS Intern Manual will become part of the Intern's training file.
- (3) Maintenance of the ALS Intern Manual is the responsibility of the Intern. It is recommended that the Intern maintain this manual in a safe place to ensure that all documentation remains intact. Any "missing" documentation will require the Intern to repeat the skill, rotation, evaluation, etc.)

### **B. Requirements**

- (1) Documents a minimum of 30 medical incidents of which 10 are ALS (incidents in which ALS treatment or assessment was performed by the intern.
- (2) Rides at least three months as an ALS Intern (this requirement may be shortened based upon performance, call volume, completion of KSA's and approval of the Administrative Battalion Chief).
- (3) Receives a satisfactory final written evaluation from his/her Mentor.
- (4) Ensures that his/her ALS Intern Manual has been reviewed by the Administrative Battalion Chief and Operational Medical Director.

- (5) Upon recommendation from the Department Operational Medical Director, receives the final approval by the Chief of the Department.

## **VIII. ALS Intern Mentor Responsibilities**

- A. The mentor is responsible for an Intern assigned to his/her unit for training. The Mentor shall provide orientation on the following:
  - (1) Station policies and procedures.
  - (2) Location of station forms, logbook, equipment checklists and other relevant administrative items.
  - (3) Daily duties
  - (4) Drills
  - (5) Evaluations
  - (6) Location of Bio-Medical equipment and proper care and operation of equipment
  - (7) Controlled substances and related administrative policies
  - (8) Departmental management policies, medical protocols, and other applicable EMS references.
  - (9) Infectious control procedures
- B. Evaluations
  - (1) The Mentor must complete evaluations at the appropriate time intervals each month (daily and monthly). Consultation between the intern's assigned mentor and the Administrative Battalion Chief is encouraged throughout the internship.
  - (2) The intern shall be given the opportunity to discuss his/her written evaluations with his/her Mentor prior to submission to the Administrative Battalion Chief.
  - (3) Adequate time must be provided for discussion and input from the intern.

- (4) Daily reviews must be completed prior to the end of the following workday.
- (5) Evaluations shall reflect strong and weak areas observed on the daily reviews.
- (6) The "Formal Evaluation Standards" guidelines will be used in rating the intern on the formal evaluations (see section XII).
- (7) At the end of the intern period, documentation shall be compiled by the intern, reviewed by the mentor, and forwarded to the Administrative Battalion Chief. The documentation shall include:
  - a. All daily reviews
  - b. Three formal evaluations
  - c. 30 documented medical incidents (patient care reports), 10 of which are ALS calls.
  - d. Completed KSA's skills sheets
  - e. Extension requests (if applicable)
  - f. Any other appropriate documentation
- (8) Provide guidance on completion of patient care reports, pre-hospital incident reports, controlled drug documentation and reporting procedures, field intubation reporting forms, in-hospital clinical reporting requirements, daily check-off sheets for medical equipment/apparatus and other reporting documentation for ALS providers.
- (9) Provide feedback to the Administrative Battalion Chief on the progress of assigned interns during the field intern period. Any difficulties identified should be broached immediately.
- (10) Provide a positive role model for the intern. Create a positive, coaching atmosphere where the intern is able to learn. Allows the intern to perform all appropriate skills in the field setting without interference unless contrary to quality patient care.



## INTERNSHIP ORIENTATION AGREEMENT

**ALS Intern:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Mentor:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Internship period: (From)** \_\_\_\_\_

**(To)** \_\_\_\_\_

## **Appendix B1**

### **ALS Internship Signature Page**

**CITY OF FAIRFAX**  
**DEPARTMENT OF FIRE AND RESCUE SERVICES**  
**ALS INTERNSHIP PROGRAM    INTERN NAME: \_\_\_\_\_**

Category	Date	Mentor Signature	Rating
ALS Internship Begun		Assigned	N/A
Receipt of ALS Manual		Assigned	N/A
Assignment of Mentor		Assigned	N/A
Formal Evaluation 30 days			
Formal Evaluation 60 days			
Formal Evaluation 90 days			
Formal Evaluation Extension			
Knowledge, Skills and Abilities			N/A

**Internship Completion Date:** \_\_\_\_\_

**Recommendation for Minimum ALS Staffing:**                      **YES**                      **NO**

**Mentor Signature:** \_\_\_\_\_

**Approval by Administrative Battalion Chief:** \_\_\_\_\_

**Approval by Volunteer EMS Officer (as needed):** \_\_\_\_\_

**Approval by Operational Medical Director:** \_\_\_\_\_

**Approval by Chief:** \_\_\_\_\_

## **Appendix B2**

### **EMS Field Intern Daily Review Form**

[illegible]

**OVERALL SHIFT PERFORMANCE ( See major evaluation for breakdown of evaluation factors and ratings)**

EVALUATION FACTORS	RATINGS				COMMENTS REQUIRED
	1	2	3	4	
1. Safety	1	2	3	4	
2. Patient Assessment Skills	1	2	3	4	
3. Communication Skills	1	2	3	4	
4. Demeanor/Teamwork	1	2	3	4	
5. Treatment Skills	1	2	3	4	
6. Equipment/Supplies	1	2	3	4	

**ADDITIONAL COMMENTS:**


**PLAN FOR IMPROVEMENT:**


INTERN'S NAME:	INTERN'S SIGNATURE:	DATE:
EMS SUPERVISOR/MENTOR'S NAME:	EMS SUPERVISOR/MENTOR'S SIGNATURE:	DATE:

**Appendix B3**  
**Formal Evaluation Form**

# CITY OF FAIRFAX DEPARTMENT OF FIRE AND RESCUE SERVICES

## EMS FIELD INTERN

### FORMAL EVALUATION

**Circle One: 1 Month, 2 Months, 3 Months, or Extension**

<b>Intern Name:</b>		<b>Date:</b>	
<b>Unit Supervisor/Mentor:</b>			
<b>Rating Period:</b> From:    /    /	<b>To:</b> /        /	<b>Work Location/Station:</b>	<b>Shift:</b>

**Rating Criteria:** Refer to Evaluation Standards in the Internship Manual, which are based on the level of performance. An Intern should progress from a Rating 1 or Rating 2 to a minimum of a Rating 3 in each category on the final evaluation to be certified as Department Minimum Staffing ALS.

**Rating 1:** Frequently fails to perform procedure in a competent manner.  
**Rating 2:** Inconsistent in performing procedures in a competent manner, but is showing improvement.  
**Rating 3:** Consistently performs procedures in an average manner.  
**Rating 4:** Performs procedure in an above-average manner.  
**N/A:** Does not apply. Did not perform skill. Skills not observed in the field.

**Note: Comments are required in each major category.**

FACTOR		PERSONAL SAFETY AND PATIENT INTERACTION	
1.	Performs all skills in a safe and appropriate manner. Recognizes potentially hazardous situations.	1    2 3    4 N/A	
2.	Initiates appropriate infection control procedures.	1    2 3    4 N/A	
3.	Establishes and maintains rapport with patient and bystanders.	1    2 3    4 N/A	



**Note: Comments are required in each major category.**

FACTOR		PATIENT ASSESSMENT SKILLS	
4.	Performs a complete primary assessment and intervenes immediately. <b>Primary Survey:</b> Environment ABC's LOC Vital Signs Chief Complaint	1 2 3 4 N/A	
5.	Obtains relevant and accurate patient history, medications and allergies in a systematic manner (secondary assessment)	1 2 3 4 N/A	
6.	Performs an appropriate physical examination when indicated.	1 2 3 4 N/A	
7.	Recognizes patients that need further medical attention, assumes appropriate mode of transportation (ambulance, POV, etc.)	1 2 3 4 N/A	
8.	Obtains accurate vital signs in a timely manner when indicated.	1 2 3 4 N/A	
9.	Recognizes dysrhythmias in a timely and accurate manner.	1 2 3 4 N/A	
10.	Interprets assessment information correctly and takes appropriate action.	1 2 3 4 N/A	
11.	Accurately reports all pertinent information in a systematic manner.	1 2 3 4 N/A	

**Note: Comments are required in each major category.**

FACTOR		PATIENT ASSESSMENT SKILLS (cont.)	
12.	Speaks clearly and concisely and is easily understood.	1 2 3 4 N/A	
13.	Repeats all orders and reports patient response to therapy.	1 2 3 4 N/A	
14.	Keeps accurate, complete and legible written records, (daily reviews, patient reports, study sheets, etc.)	1 2 3 4 N/A	

FACTOR		DEMEANOR/TEAMWORK	
15.	Anticipates orders, anticipates the needs of other team members.	1 2 3 4 N/A	
16.	Establishes appropriate working relationship with all team members (i.e. police, suppression, other EMS personnel, hospital personnel)	1 2 3 4 N/A	
17.	Communicates information appropriately to all team members.	1 2 3 4 N/A	
18.	Performs well under stress, uses good judgement.	1 2 3 4 N/A	
19.	Is able to accept constructive criticism and guidance.	1 2 3 4 N/A	

**Note: Comments are required in each major category.**

FACTOR		TREATMENT SKILLS (Performs according to recommended procedures)	
20.	Airway Control (Patient Airway)	1 2 3 4 N/A	
21.	Bandaging and Splinting	1 2 3 4 N/A	
22.	Burn Therapy	1 2 3 4 N/A	
23.	CPR	1 2 3 4 N/A	
24.	Defibrillation/Cardioversion	1 2 3 4 N/A	
25.	Drugs and Drug Administration	1 2 3 4 N/A	
26.	Emergency Childbirth	1 2 3 4 N/A	
27.	Endotracheal Intubation	1 2 3 4 N/A	
28.	Extrication	1 2 3 4 N/A	

**Note: Comments are required in each major category.**

FACTOR		TREATMENT SKILLS (Performs according to recommended procedures)	
29.	IV Technique	1 2 3 4 N/A	
30.	Needle Thoracostomy (Chest Decompression)	1 2 3 4 N/A	
31.	Oxygen Administration (cannula, mask, etc.)	1 2 3 4 N/A	
32.	Spinal Immobilization	1 2 3 4 N/A	
33.	Suctioning	1 2 3 4 N/A	

FACTOR		EQUIPMENT/SUPPLIES	
34.	Maintain assigned inventory (daily check-off lists)	1 2 3 4 N/A	
35.	Demonstrates the ability to correctly operate all bio-medical equipment	1 2 3 4 N/A	
36.	Post-call discussions	1 2 3 4 N/A	

[illegible]

## **Appendix B4**

### **Formal Evaluation Standards**

## ALS INTERN FORMAL EVALUATION STANDARDS

The following evaluation standards have been designed to assist in objectively determining the appropriate rating to be given in each evaluation category. The evaluating mentor will utilize these standards when completing the ALS Intern's evaluations.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	PERSONAL SAFETY AND PATIENT INTERACTION			
1. Performs all skills in a safe and appropriate manner. Recognizes potentially hazardous situations.	Frequently fails to perform in a safe and effective manner.	On several occasions, failed to perform in a safe and effective manner.	Consistently performs in a safe and effective manner with occasional prompting.	Consistently performs in a safe and effective manner.
2. Initiates appropriate infection control procedures.	Frequently fails to take any steps for infection control.	Is inconsistent with infection control procedures.	Consistently initiates infection control procedures with occasional prompting.	Consistently practices infection control procedures.
3. Establishes and maintain rapport with patient and bystanders.	Rude, abrupt, and/or unprofessional conduct.	Occasionally shows a lack of consideration for patient or bystander (harsh conversation, lack of empathy, etc.)	Builds a rapport with patients and bystanders. Shows consideration of patient/bystander. Acts professionally.	Consistently deals with even the most difficult patients or family in a professional manner.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	PATIENT ASSESSMENT SKILLS			
4. Performs primary assessment and intervenes immediately as indicated. <u>Primary Assessment</u> Environment, ABC's, LOC, Vitals, Chief Complaint.	Omits portions of primary assessment but is either very slow in assessing and/or intervening, or is disorganized in their approach.	Performs a complete primary assessment but is either very slow in assessing and/or intervening, or is disorganized in their approach.	Performs a complete and fairly organized primary assessment in a reasonable amount of time. Recognizes critical vs. noncritical patients, i.e. opens airway, intervenes appropriately.	Demonstrates above average skills in performing a complete and organized primary assessment in a timely manner. Intervenes rapidly, initiates CPR, etc.
5. Obtains relevant and accurate patient history, chief complaint, medications and allergies in a systematic manner (secondary assessment).	Totally disorganized patient assessment. Does not get pertinent information. Is not complete. Hospital frequently requests additional information.	Obtains an adequate patient assessment, but is either very slow in assessment and/or is disorganized.	In a reasonable amount of time, obtains an adequate patient history, chief complaint, medications and allergies in a fairly organized manner. (Adequate is defined as acceptable, but not remarkable).	Able to gather information efficiently in even difficult situations (i.e. emotionally charged situations). Organized and timely.
6. Performs an appropriate physical exam when indicated (secondary assessment).	Frequently fails to perform a patient exam and/or findings are inaccurate.	Inconsistent in performance of pertinent physical exams. Findings are accurate.	Performs physical exam pertinent to patient's chief complaint. Findings are accurate.	Same as Rating 3 and able to detect subtle findings.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	PATIENT ASSESSMENT SKILLS (cont.)			
7. Recognizes patients that need further attention, assumes appropriate mode of transport, (ambulance, POV, etc.). The intern assumptions are determined by actions or in a critique.	Frequently fails to recognize patients requiring further medical attention and/or does not use good judgement in assuming appropriate mode of transportation. Makes the same or similar mistake on subsequent runs.	Usually recognizes patients needing further medical attention but does not consistently assume correct mode of transportation. Does not make the same or similar mistake on subsequent runs.	Consistently uses good judgement in determining those patients that need further medical attention. Errors on side of patient. Assumes appropriate mode of transportation. Recognizes appropriate time in runs to transport: a. "load and go"; b. deterioration of patient status; c. patients requiring definitive care at scene; d. patients not responding to field treatment.	Uses excellent judgement regarding medical attention/transportation. Shows strong ability to identify appropriate transportation needs in even the most difficult situations.
8. Obtains vital signs quickly and accurately when indicated.	Frequently does not take vital signs at appropriate time OR frequently has problems with procedure, OR vital signs obtained are inaccurate.	Occasionally vital signs are not put in proper priority. Obtains vital signs accurately, but takes too long to perform procedure.	Usually takes vital signs at the appropriate times. Obtained in a reasonable amount of time, and are accurate.	Shows a strong ability to correlate vital signs with patient's condition. Consistently accurate and timely.
9. Recognizes arrhythmias.	Frequently unable to identify classic rhythms in a timely manner either in drills or in field situations.	Performs well in station drills, but occasionally has problems with accuracy and timeliness in field settings.	Identifies classic EKG rhythms accurately and quickly. Able to read static or monitor display rhythms.	Identifies even difficult EKG rhythms accurately and quickly.
10. Interprets assessment information correctly and takes appropriate action.	Frequently unable to interpret assessment information correctly. Demonstrates weak knowledge base OR suggests treatments that would have an adverse effect on the patient.	Interprets assessment information correctly, but is hesitant about the correct action to take.	Correlates information from patient assessment with knowledge base gained from training and suggests treatment appropriate to situation.	Shows strong ability to interpret assessment information and take appropriate action. Picks up on things the average intern would not.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	COMMUNICATIONS SKILLS			
11. Accurately reports all pertinent information in a systematic manner to the EMS OIC or medical control physician as appropriate.	Fails to report key information. "Paints a poor or inaccurate picture".	Reports all pertinent information, but is very disorganized.	Reports all pertinent information in a fairly organized manner. "Paints an accurate picture".	Consistently reports all pertinent information in a systematic, timely and concise manner even on difficult runs.
12. Speaks clearly and concisely and is easily understood.	Mumbles or rambles. Reports are difficult to hear or understand.	Reports are fairly concise, but speak too softly and/or rapidly.	Speaks slowly, has adequate pronunciation. Is fairly brief and to the point; does not ramble.	Excellent reporting skills; brief and to the point.
13. Repeats all orders and reports patient response to therapy.	Frequently fails to repeat orders or repeats orders back inaccurately. Frequently fails to inform others of patient's response to therapy.	Occasionally fails to repeat orders and/or report patient response to therapy. Needs to be prompted.	Consistently repeats all orders and usually keeps team informed of patient's response to treatments; rarely needs prompting.	Consistently repeats all orders and without prompting updates the team on patient status.



EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	COMMUNICATIONS SKILLS (cont.)			
14. Keeps an accurate, complete and legible written record. (Daily review, patient reports, study sheets, etc.)	Records are inaccurate, incomplete, and/or illegible.	Records are accurate and complete, but difficult to read.	Records are accurate, complete, and legible; covers all legal implications.	In addition to Rating 3, is extremely thorough, neat and timely. Completes all associated paperwork in a timely manner.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	DEMEANOR / TEAMWORK			
15. Anticipates orders, anticipates the needs of other team members.	Frequently does not anticipate even basic orders/treatments of oxygen, monitor, IV. Does not assist when other team members need help (stands back).	Occasionally does not anticipate orders/treatments or is not prepared to assist other team members.	Usually anticipates most orders and the needs of other team members (i.e. oxygen, appropriate IV, monitor, initial drugs, etc.)	Very efficient and organized. Approach to patient care is so systematic that there is little wasted time or effort.
16. Establishes appropriate working relationships with all team members, (i.e. Police, suppression, other EMS unit personnel, and hospital personnel).	Does not function as part of a team effort. Fails to establish rapport with team members. Attitude impedes progress of runs. Does not follow appropriate chain of command.	Has established rapport with some, but not all team members.	Functions as a team members; establishes rapport. Respects chain of command and follows directions.	Establishes exceptional rapport with team members.
17. Communicates information appropriately to all team members.	Frequently fails to give key information to lead ALS person. "Paints a poor or inaccurate picture".	Is inconsistent, sometimes communicates well and other times fails to keep personnel informed adequately or communicates necessary information, but mumbles or is too quiet.	Clearly communicates all pertinent information to lead ALS person and other involved personnel. "Paints an accurate picture".	Has a very strong leadership and communication quality. Consistently considers each team member.
18. Performs well under stress, uses good judgement.	Frequently fails to provide adequate and/or safe patient care when under stress. (Excessive anxiety leading to poor judgement, inability to make decisions, inability to start an IV, etc.) Seems overwhelmed by situation.	Is inconsistent; handles some stressful situations easily, but is unsure of what to do in other situations. Unsure of what to do in new situations that are similar to previous ones handled.	Thinks clearly; uses good judgement. Provides adequate and safe patient care when under stress. Remains fairly calm.	Consistently shows calm, collected attitude that seems to reassure personnel and the patient around him/her. Thinks clearly, uses good judgement.
19. Is able to accept constructive criticism and guidance.	Takes constructive criticism poorly, argues with officers and mentor. Rationalizes mistakes.	Appears to accept constructive criticism but does not appear to fully understand reasons or make changes. Has no comment.	Participates in evaluation of self; accepts constructive criticism and suggestions. Does not rationalize mistakes. Make necessary steps to correct performance.	Extremely open to suggestions. Always seeking ways to improve self.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	TREATMENT SKILLS			
20. Airway Control	Frequently fails to open and maintain an airway. Uses or does not recognize poor technique.	Is inconsistent. Sometimes adequately manages airway and other times does not.	Consistently opens and maintains an adequate airway using appropriate technique. Monitors performance of others. Treats as appropriately and as highest priority.	Same as Rating 3 with remarkable knowledge of procedure and maintains aggressive airway control.
21. Bandaging and Splinting	Ineffective technique or treatment causing potential harm to patient. Failure to initiate any treatment.	Aware of need for bandaging/splinting but needs some direction (slow but adequate).	Applies appropriate and adequate dressings/splints in a timely manner.	Able to dress difficult/unique injuries well.
22. Burn Therapy	Fails to initiate basic burn care. No secondary considerations, i.e. airway problem. Concentrates on only the obvious.	Knowledgeable about burn care, but fails to carry out all aspects of burn care in a timely manner.	Effectively recognizes and treats appropriately most types of burns. Uses burn dressings appropriately.	Remarkable knowledge and skill level. Recognizes and manages secondary considerations, i.e., burn center, airway, pain management, etc.
23. CPR	Demonstrates poor technique, i.e., hand position, airway management, compression/ventilation ratio.	Performs CPR in a consistent manner, but fails to correct other personnel when performance is inadequate.	Performs CPR according to AHA standards. Competently supervises performance of other personnel.	Demonstrates skills and knowledge at instructor level.
24. Defibrillation/Cardioversion	Unaware of indication and/or incorrect procedure. Does not perform skill with safety of others in mind.	Aware of indications for use, but needs some direction to perform.	Performs correctly. Aware of indications for use. Able to anticipate patient needs following procedure.	Remarkable knowledge and performance.
25. Drugs and Drug Administration	Unfamiliar with drug therapy. Poor knowledge base. Can not calculate correct drug dosages. Repeated drug errors. Inconsistent in medication administration (i.e., administers too fast, too slow). Occasionally fails to anticipate basic orders. Does not know EMS OP's.	Basic understanding of drug administration. Occasionally fails to initiate standing orders in a timely manner. Can calculate dosages in drill setting but not on an incident.	Adequate knowledge of indications, contraindications, adverse effects and dosages. Administers drugs correctly. (i.e., unconscious patient = D50; or, symptomatic bradycardia = Atropine, etc.) Initiates standing orders appropriately. Able to perform math correctly.	Remarkable knowledge. Anticipates drug orders for more complex situations from medical control. Very well versed in med math.
26. Emergency Childbirth	Fails to do an adequate assessment and treatment.	Adequate assessment with inadequate treatment of visa/versa.	Able to recognize signs/symptoms of imminent delivery. Demonstrates appropriate care of mother and infant during and following delivery and can handle most complications (depressed baby, hemorrhaging mother, prolapsed cord, etc.).	Remarkable knowledge and skill level.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	TREATMENT SKILLS (cont.)			
27. Endotracheal Intubation	Poor knowledge base. Demonstrates poor technique (forgets major items, i.e., checking for lung sounds, head/neck positioning, etc.).	Knows indications for use. Needs some guidance to complete procedure correctly.	Institutes use of ET when appropriate. Demonstrates correct technique on first attempt.	Same as Rating 3, with remarkable knowledge of procedure, implications, etc.
28. Extrication	Overwhelmed with situation, unable to initiate basic care.	Initiates adequate immobilization but does not have sufficient control to protect patient from further (or potential) injury.	Initiates and directs immobilization in a manner that protects the patient from further (or potential) injury.	Total control of patient situation.
29. IV Technique	Frequently fails to establish IV in even simple cannulation and/or uses poor aseptic technique. Fails to exercise proper BSI.	Slow to recognize indications. Inconsistent techniques. Inconsistent aseptic technique and/or BSI procedures.	Recognizes indications and uses appropriate technique.	Almost always able to establish an IV in a timely manner. Good aseptic technique and BSI precautions.
30. Needle Thoracostomy (Chest Decompression)	Does not recognize signs/symptoms of tension pneumothorax. Does not demonstrate good technique.	Recognizes signs/symptoms of tension pneumothorax, needs some guidance to complete procedure correctly.	Recognizes signs/symptoms of tension pneumothorax. Demonstrates adequate technique.	Same as Rating 3, with remarkable knowledge of procedure, complications, etc.
31. Oxygen Administration (cannula, mask)	Fails to administer oxygen when indicated or fails to use equipment properly.	Inconsistent - occasionally fails to initiate oxygen therapy when indicated. Uses equipment properly.	Administers oxygen when necessary. Selects correct method/rate of administration. Uses equipment properly.	Same as Rating 3, with remarkable knowledge of oxygen administration, equipment, techniques, etc.
32. Spinal Immobilization	Fails to recognize obvious back/neck injuries. Fails to initiate spinal precautions in obvious situations. Incomplete or incorrect procedure. Fails to assess pre and post-neurological assessment.	Recognizes obvious problems but may fail to recognize potential problems and is slow to initiate proper treatment. Incomplete treatment, i.e., collar only/backboard only. Inconsistent performance of procedure.	Uses full spine precautions whenever indicated. Recognizes obvious and potential problems. Uses complete and correct procedure.	Consistently above average application and anticipation.
33. Suctioning	Frequently fails to institute suctioning of patients when required, or uses improper suctioning technique. Fails to exercise proper BSI.	Occasionally fails to recognize need for suctioning. Uses proper technique. Occasionally fails to use proper BSI.	Recognizes the need for and demonstrates ability to use proper suctioning technique.	Same as Rating 3, with a remarkable knowledge of procedure. Always practices proper BSI.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	EQUIPMENT AND SUPPLIES			
34. Maintains assigned inventory (daily check-off lists)	Needs frequent reminders to re-supply equipment. Fails to take equipment and drug inventory during a.m. checks.	Occasionally fails to re-supply, but follows up immediately when deficiencies are noted.	Consistently re-supplies drug-box, aid bag, etc. following calls using proper procedure. Takes time to maintain unit equipment in proper working order and maintain a clean vehicle.	Anticipates needs to restock supplies and replace out-dated drugs in a timely manner.

EVALUATION	RATING 1	RATING 2	RATING 3	RATING 4
FACTOR	EQUIPMENT AND SUPPLIES (cont.)			
35. Demonstrates the ability to operate correctly al bio-medical equipment	Does not know how to operate equipment or uses equipment in an unsafe or irresponsible manner.	Knows the proper use of equipment but frequently needs direction to operate.	Following orientation to electronic equipment, demonstrates the ability to correctly operate and maintain.	Adapts to new equipment easily and uses it effectively. Able to demonstrate to others.
36. Post-call discussions	Demonstrates a poor knowledge base. Does not show self-confidence.	Marginal knowledge base. Is not adequately prepared to lead the team discussion.	Demonstrates an adequate knowledge of ALS functions. Shares information well. Good teacher.	Remarkable knowledge. Strong ability to relate knowledge to others.

## **Appendix B5**

### **Knowledge, Skills and Abilities Evaluation Form**

# City of Fairfax Department of Fire and Rescue Services

INTERN NAME: \_\_\_\_\_

MENTOR NAME: \_\_\_\_\_

## Required Knowledge, Skills, Abilities

Item # Skill/ Knowledge	Print Name	Sign Name	Date Completed	Area of Concentration
1 Skill				Radio Reports (Telephone, Radio, etc.)
2 Skill Knowledge				Patient Reports (On-Lines Fire/EMS, Patient Assessment Form, Refusal Forms, Templates, Etc.)
3 Knowledge				Narcotics Accountability, Drug Discrepancy, Knox Box Keys
4 Knowledge				Driver's Role/Responsibilities
5 Knowledge				Resource management (personnel, units, CISD, Mobile Crisis, etc.)
6 Knowledge				Safety: (ICP, BSI, Traffic, Sharps, Disinfection, Scene Management)
7 Show Proof				Immunizations (Show current HBV, PPD, etc.)
8 Knowledge				First Day Checks
9 Knowledge				Preplans, Street Books
10 Knowledge				EMS Operations Procedures
11 Knowledge				MCI Management (START, Triage, etc.)
12 Knowledge				Medevac Utilization
13 Knowledge				Hospital Restocking Procedures (Refer to OP)
14 Knowledge				Unit Preparation
15 Knowledge				Patient Restraints
16 Knowledge				Patient Assessment (Medical, Trauma)
17 Skill				Pulse Oximetry
18 Skill				Doppler Use
19 Skill Knowledge				Broselow Kit Use

Item #	Print Name	Sign Name	Date Completed	Area of Concentration
20 Skill				Glucometer
21 Skill Knowledge				Endotracheal Intubation (Oral, Digital, Blind Nasotracheal, Use of Study Sheet)
22 Skill Knowledge				Endotracheal Intubation with EOA
23 Skill				Esophageal Obturator Airway (EOA)
24 Skill				Airway with Magill Forceps
25 Skill				Nasogastric Tubes
26 Skill				Needle Chest Decompression
27 Skill				Tracheal Suctioning
28 Skill				Bag Valve Mask Use
29 Skill				Demand Valve Use
30 Skill				AutoTransport Ventilator
31 Skill Knowledge				Supplemental Oxygen Therapy
32 Skill				Carotid Sinus Massage, Valsalva
33 Skill				Cardioversion
34 Skill				Defibrillation
35 Skill				Cardiac Monitoring
36 Skill				Automatic External Defibrillator
37 Skill				External Cardiac Pacing
38 Show Card				CPR, (FBAO) (Show Current CPR Card)
39 Knowledge				EKG Quiz
40 Knowledge				Pharmacology/Med-Math (Pharmacology Quiz)
41 Skill Knowledge				Nitrous Oxide Administration (Study Sheet)
42 Skill				PSAG Use
43 Skill Knowledge				Intravenous Therapy
44 Skill				Intramuscular Injections
45 Skill				Subcutaneous Injections
46 Skill Knowledge				Intraosseous Infusion
47 Skill				IV Medications
48 Skill				Piggy Back Infusions
49 Skill				Sublingual, Oral and Medication Mixing/Administration

Item #	Print Name	Sign Name	Date Completed	Area of Concentration
50 Skill				Transtracheal Medications
51 Skill				External Jugular Cannulation
52 Skill				Nebulizer Medication Administration
53 Skill				Cot Operations
54 Skill				EVOC verification, Street Test

**Mentor Review/:** \_\_\_\_\_

**Completion Date:** \_\_\_\_\_



## **Appendix B6**

### **Skills Check Sheets**

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 1  
RADIO REPORTS**

1. If using radio, hold microphone 4-6 inches from your mouth. Depress the microphone button for approximately 2-4 seconds to allow the repeater to activate, then speak. If using a house or cell phone, speak as you normally would on the phone. Regardless of the mode of communication, speak slowly and deliberately being clear and concise. Remember, the nurse at the other end is writing down what you say so don't speak faster than he/she can write.
2. Begin transmission by asking receiving clinician to identify him/herself.
3. Give your name, title and unit.
4. Give patients age and sex.
5. Give level of consciousness.
6. Give patients chief complaint.
7. Give brief appropriate history of present illness (HPI).
8. Describe in brief and concise fashion the significant physical assessment findings (e.g., V.S., lung and heart sounds, skin condition, mental status, anything pertinent in a head to toe survey).
9. Give pertinent past medical history.
10. Give allergies and current medications.
11. Describe treatment given.
12. Describe response to treatment.
13. Request appropriate orders. Listen and repeat back any medication order or procedure.
14. Give estimated time of arrival. (ETA)

\* NOTE      On major incidents, IE., 9I's with multiple vehicles or persons trapped, the hospital will be pre-alerted as well as the helicopter. It is incumbent upon you when you arrive on the scene to size up the incident and either escalate or de-escalate the event. Give a clear, concise situation report and either request more equipment or place units in service who are responding but will not be needed.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 2  
PATIENT DOCUMENTATION REPORT**

1. Give complete demographic information.
2. Indicate patients age and sex.
3. Clearly define patients chief complaint.
4. Describe initial level of consciousness.
5. Define location/presentation.
6. Note pertinent history of present illness.
7. Note pertinent past medical history.
8. Document allergies/List current medications
9. Describe pertinent positive and negative physical findings.
10. Record treatment.
11. Record response to treatment.
12. Note patient condition at hospital.
13. Indicate volume of IV fluids administered at the time of hospital arrival.
14. Copy/attach EKG strip.
15. Document orders
16. Document times.
17. Record vital signs

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 2  
PATIENT DOCUMENTATION REPORT cont.**

18. Complete appropriate scores (i.e., APGAR, Glasgow, Trauma, Croup)
19. Obtain appropriate signatures at receiving facility.

**\*NOTE**

This is but a skeleton of the necessary information for a patient report. It is expected that you will utilize the appropriate template for the clinical presentation and also provide the correct coding and other information that On-Lines request. Remember that both the hand written and the ON-Lines reports are legal documents and are subject to being subpoenaed to court.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 17  
TRANSCUTANEOUS PULSE OXIMETRY**

1. Pulse oximetry allows the patient care provider to establish and track a patient's progress through the evolution of the patient's treatment.
2. There are limitations to the use of pulse oximetry. The device will identify any gas that has the ability attach to hemoglobin thus CO<sub>2</sub> as well as O<sub>2</sub> thus rendering the pulse oximeter useless in a patient with poisoning by inhalation. The percentage of oxygen saturation measured by an oximeter only reflects the supplied pulmonary oxygenation, and is not an indicator or measure of cellular oxygen levels.
3. Oxygen administration and patient exam should not be delayed to obtain a SpO<sub>2</sub>.
4. Connect the finger or ear clip to the pulse oximeter.
5. If using the finger clip remove any nail polish from the patient's nails with acetone wipes. Connect the sensor to the patient.
6. Turn on the device by pushing the top button. The sensor light should be on after the clip is attached to the patient. The LCD indicator will flash if the batteries are low.
7. When the indicator light flashes red, no signal is received, when it is flashing amber, the signal is weak. The most reliable signal is read after the indicator has flashed green more than five times. The rate of flashing should correspond with the patients pulse.
8. Place the Pulse Oximeter where it can be seen by the medic who is monitoring ventilations. Be sure to secure the unit so that will not be damaged.
9. At normal ambient oxygen levels the SpO<sub>2</sub> will fluctuate between 96 - 100%. If the reading is 95% or less, than the FiO<sub>2</sub> should be increased and the patients minute ventilation increased with high FiO<sub>2</sub>. Compare the pulse reading with the patient's pulse, if they coincide the SaO<sub>2</sub> reading is accurate. Treat the patient not the device.

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**ALS INTERNSHIP SKILLS SHEET # 18  
ASSESSMENT OF BLOOD FLOW WITH A DOPPLER**

1. The Doppler is used to determine blood flow in three primary settings, fetal heart rate, weak pulses that are difficult to palpate, and to determine blood flow distal to compromised circulation.
2. To determine fetal heart rate after the 8th week of gestation: Expose the mother's abdomen. Palpate for the fetal head then determine the location of the fetal back, explain the procedure to the mother.
3. Prepare the Doppler by placing water-soluble gel on the sending receiver.
4. Place the earpiece in your ears and press the send button while adjusting the volume to a comfortable level.
5. Place the tip of the Doppler on the suspected area of the back of the fetus.
6. Search for the fetal heart rate by moving the Doppler at various angles, until the pulse is heard. Do not search by sliding the tip across the abdomen. If the pulse is not heard, move the Doppler to another location and repeat the procedure.
7. When a pulse is located, compare the fetal rate to the mothers pulse. The fetal pulse should normally be in the 120 to 160 range. A lower rate is indicative of fetal stress.
8. Record the maternal and fetal rate and make the report to the hospital.
9. When determining a blood pressure while using a Doppler find the pulse point distal to the blood pressure cuff.
10. Prepare the Doppler as stated above in section 3.
11. Find the pulse by adjusting the angle of the Doppler. Once the pulse is heard, inflate the blood pressure cuff. After the sound ceases, inflate 20 mmHg more.
12. Gradually release the cuff until the pulse is auscultated. The cuff should be fully released because one can only record the systolic pressure when using a Doppler.
13. Report findings to hospital.

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**ALS INTERNSHIP SKILLS SHEET # 19  
BROSELOW KIT USE**

1. Demonstrates proper use of Broselow tape to measure patient and determine recommended equipment sizes/drug dosages. (Measuring from the red end, tape is extended from patient's head to the heel)
2. Demonstrates knowledge of equipment location within the kit.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 20  
GLUCOMETER**

1. Remove glucometer and test strip from storage box.
2. Expose the "meter end" of the test strip by carefully peeling back the foil only as far as the lines on the package. Be careful not to touch either end of the contacts on the test strip.
3. Using the foil package to hold the test strip, insert it into the glucometer with the tab up. Insert until the strip seats firmly and the glucometer beeps.
4. The glucometer will display a "function number." Confirm that number is the same as the function number on the foil package, which the test strip came from. The last blood glucose reading will also be displayed.
5. Obtain blood sample (from IV or finger stick). Dispose of sharp in a sharps disposal system properly.
6. Touch blood sample to end of test strip. Blood will be drawn inside the test strip by capillary action. Glucometer will beep when test strip has adequate amount of blood.
7. After 60 seconds, glucometer will beep again and display blood glucose level.
8. Remove test strip and dispose of into a biohazard waste system.
9. Return glucometer to storage box after cleaning/disinfecting.



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**ALS INTERNSHIP SKILLS SHEET # 21-A  
ENDOTRACHEAL INTUBATION  
VISUALIZED OROTRACHEAL INTUBATION**

1. Take/maintain body substance isolation.
2. Confirm that the patient is being ventilated properly and with a high oxygen concentration.
3. Auscultate bilateral breath sounds to establish a baseline.
4. Select correct size ET tube open tube wrapper and remove filler tube only.
5. Attach a 10-20 cc syringe to one-way valve on filler tube. Leave ET tube in package, and inject 10cc of air to inflate distal tube cuff while holding your hand around the cuff. Then remove syringe and check to see that the cuff remains firm under the pressure of your hand.
6. Withdraw air from cuff with syringe.
7. Lubricate distal end and cuff of the ET tube.
8. Insert stylet into ET tube until distal end of stylet is    inch from the end of the tube. Bend the proximal end of stylet over the tube, to prevent it from advancing further into the tube.
9. Shape the ET tube/stylet combination appropriately to facilitate passage into the trachea.
10. Unless spine trauma is suspected, hyperextend the patients head and position it in the "forward sniffing position." If spine trauma is suspected, direct that the head be maintained in the neutral in-line position. Appropriate padding under the patient's head can be helpful in maintaining the desired alignment.
11. Direct that the patient be hyperventilated.
12. Assure a means of securing the tube once confirmed in place.
13. Direct ventilator to move to side of patient's head and position yourself above patient. If spine trauma is suspected, assume one of the postures that permit you to work while still maintaining the neutral alignment of the patient's head and spine.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 21-A**  
**ENDOTRACHEAL INTUBATION**  
**VISUALIZED OROTRACHEAL INTUBATION cont.**

14. Hold the laryngoscope handle and blade in your left hand. Direct that ventilations be stopped and with your right hand remove the oropharyngeal airway and perform a tongue-jaw lift.
15. Insert laryngoscope blade into right side of patient's mouth and gently advance blade to correct depth while sweeping blade to the left and observing landmarks.
16. Direct assisting EMT to apply anterior-to-posterior pressure on the patient's larynx.
17. Extend your left arm to lift against patient's tongue and jaw with laryngoscope
18. When vocal cords are visualized, begin insertion of ET tube into patient's mouth.
19. Advance tube between the vocal cords and stop once the cuff has passed the cords. Remove stylet.
20. Inflate distal cuff by injecting 10cc of air through filler tube. Remove syringe from one-way valve. Throughout, maintain firm grasp on proximal end of tube where it exits the patient's mouth.
21. Direct resumption of ventilations with BVM or demand valve connected to proximal end of ET tube. Direct hyperventilation.
22. Observe for chest rise with each delivered breath and auscultate over the epigastrium for absence of air sounds with ventilations.
23. If chest rise is not seen, and if air sounds are heard upon auscultation over the epigastrium with each breath, immediately stop ventilations and disconnect the BVM or demand valve from the proximal end of the tube. The tube may either be bent over outside the patient's mouth and mask ventilations resumed, or the tube may be removed by first deflating the distal cuff by withdrawing air through the filler tube with the 10cc syringe. In either case, mask ventilations must be immediately resumed.
24. After at least thirty seconds of ventilation, re-attempt to intubate the patient. If the tube has been left in place (in the esophagus), move the first tube to the left side of the patient's mouth. Again visualizing for the vocal cords using a second ET tube to intubate the patient.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 21-A  
ENDOTRACHEAL INTUBATION  
VISUALIZED OROTRACHEAL INTUBATION cont.**

25. Again observe for chest rise with each delivered breath and auscultate over the epigastrium for absence of air sounds with ventilations.
26. If chest rise is seen and air sounds are not heard upon auscultation over the epigastrium with each breath confirm proper ventilation of the lungs by auscultating over the mid lung fields for the presence of air sounds with each delivered breath.
27. If baseline breath sounds were bilaterally equal but breath sounds are now heard only on right side, withdraw ET tube 1-2 cm and re-auscultate. Continue this process until equal bilateral sounds are again heard.
28. Once proper ventilation of the lungs has been confirmed by chest auscultation, secure ET tube in place with tape wrapped around the head/neck or with a commercial ET tube holder.
29. Periodically re-confirm adequate ventilation by observing for chest rise and auscultating over the mid-lung fields for bilateral breath sounds.
30. Dispose of any single-use items and properly clean reusable equipment according to infection control guidelines.
31. Fill out ET study sheet and forward it to the Administrative Battalion Chief.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 21-B  
ENDOTRACHEAL INTUBATION  
BLIND NASOTRACHEAL INTUBATION**

1. Take/maintain body substance isolation (BSI).
2. Confirm that the patient is being provided with a high Fio2 and that spontaneous ventilation exists or is provided by assisted ventilation.
3. Auscultate bilateral breath sounds to establish a baseline.
4. Examine nostrils and select correct size ET trigger tube.
5. Attach 10-20 cc syringe to one-way valve on filler tube and inject 10cc of air to inflate distal tube cuff and check it for leaks. Confirm tautness of pilot bulb as you would for orotracheal intubation
6. Withdraw air from cuff with syringe and leave syringe securely attached to one-way valve. Pilot bulb should be flat.
7. Lubricate distal end and cuff of the ET tube.
8. Position yourself at the patient's upper torso, turned slightly toward the patient's face.
9. Head should be held in the neutral position.
10. Hold the ET tube between the thumb and first two fingers with the distal tip pointing posteriorly into the selected nostril.
11. Advance the tube in to the nostril, guiding in an anterior to posterior direction. The bevel must be toward the septum to act as a guide to the posterior nasopharynx. A slight back and forth rotation may be necessary at times to get through the turbinate.
12. As the tube is advanced, listen closely for breath sounds at the proximal end of the tube. As the tube gets closer to the glottic opening, the sounds will get louder. The tube should be advanced on inspiration only. If the tube fails to go in and sounds become less, as would happen when the tube goes in the esophagus, back the tube out until sounds get loud again and then apply slight pressure to the trigger and attempt to advance again when the patient inspires. Sellick's maneuver is also helpful when near the trachea and advancing the tube.

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**ALS INTERNSHIP SKILLS SHEET # 21-B  
ENDOTRACHEAL INTUBATION  
BLIND NASOTRACHEAL INTUBATION cont.**

13. Once the tube is in, ventilate with a BVM while listening for breath sounds over the chest and abdomen. Once proper placement is confirmed, inflate cuff with 10cc of air, ventilate with BVM and again confirm lung sounds. **(If the patient is able to make a noise from his oropharynx, the tube is not in).**
14. After tube placement has been confirmed, secure it in place with tape or IV tubing.
15. If patient is conscious, keep reassuring them and encourage them to not fight the tube. In some instances, medical control may need to be contacted to request orders for Valium to partially sedate the patient due to gag stimulus or anxiety about the tube.
16. Fill out ET study sheet and forward to the Administrative Battalion Chief.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 21-C  
ENDOTRACHEAL INTUBATION  
BLIND TACTILE OROTRACHEAL**

1. Take/maintain body substance isolation.
2. Confirm that the patient is being ventilated with high flow oxygen.
3. Select and check proper ET tube.
4. Lube stylet with KY jelly and insert in to ET tube ensuring that it is placed    inch from the end of the tube.
5. Shape the ET tube/stylet into a "J" or corkscrew configuration.
6. Lubricate distal end of ET tube with KY jelly.
7. Position yourself at the patient's upper torso facing the patient.
8. When ready to insert the ET tube, direct that the ventilations be ceased. Withdraw OPA and insert the tube in the corner of the mouth.
9. Insert index and forefingers into mouth and feel for the epiglottis.
10. Once the epiglottis is felt, elevate it by lifting the fingertips slightly, then insert the bent ET tube into the patient's mouth with your free hand and guide its bent distal tip between the first two fingers.
11. Advance the tube until its bent distal tip can be felt at the fingertips. With the hand holding the tube's proximal end, push the tube caudally while using the fingertips to walk the distal tip into the trachea.
12. With the tube inserted into the trachea, grasp it firmly with the still-inserted fingers and withdraw the stylet with the other hand. As soon as the stylet is removed, advance the tube fully to the desired depth which should only be 1-2 cm.
13. Inflate the distal cuff by injecting air through the one-way valve on the filler tube with the syringe.
14. Attach the BVM to the proximal end of the ET tube and direct resumption of ventilations.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 21-C  
ENDOTRACHEAL INTUBATION  
BLIND TACTILE OROTRACHEAL cont.**

15. Observe for chest rise with each delivered breath and auscultate over the epigastrium for absence of air sounds with ventilations.
16. If chest rise is not seen and if air sounds are heard upon auscultation over the epigastrium with each breath, immediately stop ventilations and disconnect the BVM from the proximal end of the tube. Deflate the distal cuff by withdrawing air through the filler tube with the 10cc syringe, and withdraw the tube. BVM ventilations must be immediately resumed for at least thirty seconds before another intubation attempt is made.
17. If chest rise is seen and air sounds are not heard upon auscultation over the epigastrium with each breath, confirm proper ventilation of the lungs by auscultating over the mid-lung fields for the presence of air sounds with each delivered breath.
18. If baseline breath sounds were bilaterally equal but breath sounds are now heard only on right side, withdraw ET tube 1-2 cm and re-auscultate. Continue this process until equal bilateral sounds are again heard.
19. Once proper ventilation of the lungs has been confirmed by chest auscultation, secure ET tube in place with tape wrapped around the head/neck or with a commercial ET tube holder.
20. Periodically re-confirm adequate ventilation by observing for chest rise and auscultating over the mid-lung fields for bilateral breath sounds.
21. Dispose of any single-use items and properly clean reusable equipment according to infection control guidelines.
22. Fill out ET study sheet and forward it to the Administrative Battalion Chief.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 22  
ENDOTRACHEAL INTUBATION WITH EOA IN PLACE**

1. Wear appropriate PPE/BSI.
2. Test cuff on endotracheal tube as done with normal orotracheal intubation.
3. Check laryngoscope and light bulb for brightness and tightness.
4. Choose an appropriate blade.
5. Maintain ventilation with EOA.
6. Instruct airway person to hyperventilate the patient.
7. Instruct airway person to remove EOA mask when you advise.
8. Move to the head of the patient. Insert your left index finger in mouth and push the EOA as far to the left as it will go in the mouth.
9. Insert laryngoscope and visualize the cords
10. Suction as necessary and insert the endotracheal tube while maintaining visualization of the cords.
11. Check tube placement by auscultating over the epigastrium and lung fields.
12. Inflate cuff of ET tube with 7-10 cc of air, remove syringe and again auscultate over the epigastrium and lung fields to confirm placement.
13. Once tube placement is confirmed, leave the EOA in place and secure the ET tube to the EOA with tape.
14. Suction the oropharynx as necessary
15. Reassess airway to ensure proper ET placement.



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**ALS INTERNSHIP SKILLS SHEET # 23  
ESOPHAGEAL OBTURATOR AIRWAY**

1. Take/maintain body substance isolation.
2. Confirm that the patient is being ventilated properly and with a high oxygen concentration.
3. Auscultate bilateral breath sounds to establish a baseline.
4. Direct that patient is hyperventilated.
5. Connect EOA tube to EOA mask.
6. Check mask/cuff inflation.
7. Check that suction port on mask is closed.
8. Check distal tube cuff for leaks. Leave 35 ml syringe attached to one-way valve.
9. Lubricate distal end of tube with KY jell.
10. Direct ventilator to move to side of patient's head and position above patient.
11. Hold EOA by tube and direct the cessation of ventilations.
12. Remove oropharyngeal airway and perform tongue-jaw lift.
13. Move patient's head into slight flexion unless spine trauma is suspected. If spine trauma is suspected, direct maintenance of neutral in-line immobilization.
14. Insert EOA tube into patient's mouth along mid-line.
15. Advance tube until mask is seated firmly on patient's face.
16. Direct resumption of ventilations with BVM or demand valve.
17. Observe for chest rise and auscultate chest for bilateral breath sounds with each ventilation to confirm proper tube placement.

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**ALS INTERNSHIP SKILLS SHEET # 23  
ESOPHAGEAL OBTURATOR AIRWAY *cont.***

18. If proper placement is not confirmed, immediately remove the EOA and direct resumption of hyperventilation with a manual airway technique. After 30 seconds or more, re-attempt insertion of EOA.
19. If proper placement in the esophagus is confirmed by proper ventilation of the lungs, inflate the distal tube cuff with the 35 ml syringe.
20. Remove syringe from the one-way valve after inflating cuff.
21. Auscultate over mid-lung fields to re-confirm presence of bilateral breath sounds and auscultate over the epigastrium to confirm the absence of air sounds with ventilations.
22. **Suction oral cavity as necessary.**

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**ALS INTERNSHIP SKILLS SHEET # 24  
AIRWAY CLEARANCE WITH MCGILL FORCEPS**

1. Confirm airway obstruction and reattempt AHA obstructed airway procedures.
2. Place head/neck in sniffing position (if no trauma).
3. Insert laryngoscope and explore mouth and anterior pharynx and then continue insertion of blade to visualize glottic opening.
4. Identify obstruction.
5. Insert Magill forceps.
6. Grasp obstruction with forceps and remove.
7. Remove laryngoscope.
8. Reassess airway.
9. If unable to grasp obstruction after repeated attempts, consider pushing it down into one mainstem bronchus.
10. Document procedure on patient care report.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 25  
NASOGASTRIC TUBE INSERTION**

1. Explain to the patient what you are going to do and its importance. Measure for the proper length of the NG tube by placing its distal tip at the patient's earlobe and then extending it from the earlobe to the bridge of the nose.
2. Then measure onward from the bridge of the patient's nose to just below his xyphoid. While holding the tube at this measure, place a piece of tape on the tube at that point to mark its maximum insertion length.
3. Position the patient either sitting fully upright or semi-sitting. Look at the nostrils and select the most widely patent nostril. Next, drape a towel, if available, across the patient's chest.
4. Lubricate the distal 3-6 inches of the NG tube with a water-soluble material.
5. With one hand support the back of the patient's head and gently lift it forward into a slightly flexed position.
6. Insert the tip of the NG tube into the selected nostril.
7. Advance the tube straight back in an anterior to-posterior direction-not cephalic. Gently rotate the tube with a back-and-forth motion between your fingertips while advancing it to overcome any mild resistance.
8. Have the patient swallow repeatedly or sip water from a glass through a drinking straw as you continue to advance the NG tube, this will help pass the tube through the glottic opening and into the esophagus. If continued resistance is met or if you can see the tube curling up in the patient's mouth. Withdraw the tube a short distance and re-attempt to advance it.
9. Insert the tube until the tape marker reaches the outer edge of the nostril.
10. Inject between 20ml and 35ml of air from a syringe into the proximal end of the NG tube, while an assistant auscultates with a stethoscope over the epigastrium. If air can not be heard, advance the tube a bit farther and re-check while additional air is injected into the NG tube.

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**ALS INTERNSHIP SKILLS SHEET # 25  
NASOGASTRIC TUBE INSERTION cont.**

11. Once air sounds are auscultated over the epigastrium when air is injected into the NG tube. Confirm the tube's proper placement by drawing back on the plunger of the syringe and aspirating the NG tube. Fluid gastric contents should be drawn into and seen in the barrel of the syringe, further confirming the tube's placement and patency. If its' placement can not be confirmed, it will have to be withdrawn and insertion re-attempted after a brief period.
12. Once the tube's placement has been confirmed, remove the syringe from the tube's proximal end and tape the NG tube to the patient's face without putting pressure on the nasal septum or obstructing the patient's vision.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 26  
NEEDLE CHEST DECOMPRESSION**

1. Take/maintain BSI/PPE.
2. Administer high flow oxygen by NRB or with BVM and supplemental oxygen.
3. Select site: 2nd intercostal space, mid-clavicular or 5th intercostal space mid axillary.
4. Cleanse area with betadine.
5. Select appropriate needle (14g or larger and at least 2 inches long) and attach a flutter valve.
6. Properly insert needle into skin and over top of appropriate rib and then into parietal pleura until air escapes.
7. Remove the needle and leave plastic cannula in place.
8. Secure cannula to chest with tape.
9. Observe patient for signs of clinical improvement.
10. Observe flutter valve for proper functioning.
11. Control bleeding around site with direct pressure.
12. Observe to ensure that cannula is not accidentally removed during transport.
13. Monitor for effectiveness of decompression.
14. Document procedure.

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**ALS INTERNSHIP SKILLS SHEET # 27  
TRACHEAL SUCTIONING**

1. Take and maintain BSI/PPE.
2. Confirm that patient is being properly ventilated with high O<sub>2</sub> concentration and that patient is on cardiac monitor if possible.
3. Set up suction equipment. Turn on suction device to assure proper functioning.
4. Attach suction catheter with sleeve to the suction tubing. The external diameter of the suction catheter should be no larger than one-third the size of the ET tube.
5. If secretions are thick, consider instilling a 3cc saline bolus down the ET tube to break up secretions.
6. Hyperventilate the patient with BVM, (24/min).
7. Remove the BVM and insert the catheter into the ET tube while sliding the sleeve toward the thumb vent of the catheter, do not suction while advancing the catheter.
8. When resistance is felt, withdraw catheter while occluding the thumb vent with left hand, and guide sleeve over the catheter with the right hand.
9. **Do not suction longer than 10 seconds.**
10. Remove and rinse catheter.
11. Hyperventilate patient with BVM.
12. Assess patient for cardiac dysrhythmias and tracheal trauma.
13. Document the procedure on the medical record.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 28  
BAG VALVE MASK VENTILATION**

1. Take and maintain appropriate BSI/PPE.
2. Perform manual airway maneuver, and confirm continued apnea.
3. Attach proper size mask to BVM outlet valve (15mm) and attach 15 LPM oxygen to reservoir.
4. While maintaining the manual airway maneuver, provide a mask seal over the patient's mouth and nose. Slowly squeeze the bag until a sufficient inspiratory volume is delivered (about 1.5 to 2 seconds in most adults, 500cc) and adequate chest rise is seen.
5. Once the chest has been observed to adequately rise, release the squeeze on the bag to allow for exhalation and automatic refilling of the bag.
6. Provide second ventilation (repeating steps 4 and 5).
7. Direct or check for a palpable carotid pulse. Continue ventilation.
8. After several ventilations, measure for and select an appropriate airway adjunct. After interrupting ventilation, insert the properly sized simple airway adjunct (OPA or, if not tolerated, an NPA).
9. Resume and continue ventilations while observing chest excursion.
10. Auscultate both midlung fields to confirm proper pulmonary air exchange and to establish a baseline.
11. After several minutes of ventilation with a high Fio<sub>2</sub>, when properly trained and certified EMT's are present, prepare equipment for intubation.
12. Intubate the patient.
13. Confirm proper placement by observing chest rise, auscultating over the epigastrium (no breath sounds) and over each midlung field (present breath sounds) during continued ventilation.



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**ALS INTERNSHIP SKILLS SHEET # 28  
BAG VALVE MASK VENTILATION cont.**

14. If available, attach pulse oximeter and monitor oxygenation.
15. Continuously monitor chest excursion and signs of oxygenation, and periodically auscultate both midlung fields to confirm continued proper ET tube placement and pulmonary ventilation.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 29  
DEMAND VALVE USE (MANUALLY TRIGGERED VENTILATOR)**

1. Take/maintain BSI/PPE.
2. Place patient in a supine position, perform a manual airway maneuver, and confirm continued apnea.
3. Open unit and take out the unit's head. Open oxygen tank and check pressure gauge.
4. Press trigger, check that oxygen flows from the head's outlet port. While depressing the trigger, occlude the outlet port to check that the high -pressure relief valve releases properly.
5. Select, attach, and properly orient the correct size mask.
6. While maintaining the manual airway maneuver, provide a mask seal over the patient's mouth and nose. Depress the trigger until a sufficient inspiratory volume is delivered (about 1.5 to 2 seconds in most adults) and adequate chest rise is seen.
7. Once the chest has been observed to adequately rise, release the trigger (button or handle) to allow for exhalation.
8. Once the chest has been observed to fall fully, provide second ventilation (Repeating steps 6 and 7).
9. Direct or check for a palpable carotid pulse. Continue ventilation.
10. After several ventilations, measure, select, and after interrupting ventilation, insert a properly sized simple airway adjunct (OPA or if not tolerated, a NPA).
11. Resume and continue ventilations while observing chest excursion.
12. Auscultate both midlung fields to confirm proper pulmonary air exchange and to establish a baseline.
13. After several minutes of ventilation, if properly trained/certified EMT's are present, prepare equipment for intubation.

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**ALS INTERNSHIP SKILLS SHEET # 29  
DEMAND VALVE USE (MANUALLY TRIGGERED VENTILATOR) cont.**

14. Intubate the patient.
15. Confirm proper placement by observing chest rise, auscultating over the epigastrium (no breath sounds) and over each midlung field during continued ventilation.
16. If available, attach pulse oximeter and monitor oxygenation.
17. Continuously monitor chest excursion and signs of oxygenation, and periodically auscultate both midlung fields to confirm continued proper placement and pulmonary ventilation.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 30  
AUTOMATIC TRANSPORT VENTILATOR**

1. Take/maintain BSI/PPE.
2. Initiate ventilation with BVM (or mouth-to-mask) and insert a simple airway adjunct.
3. Observe chest rise to confirm airway patency and adequate air exchange.
4. After several breaths, check carotid pulse.
5. Auscultate bilateral midlung fields to confirm pulmonary air exchange and establish a baseline.
6. Open ATV, remove components, and check that connections are proper and hoses are not kinked.
7. Open oxygen tank and check that the pressure gauge reflects a full or near-full tank.
8. On the control module, if so equipped, set the inspiratory time control.
9. Calculate tidal volume range. Set the tidal volume control. (15cc/kg)
10. Set the breaths per minute control.
11. Check that the combined control settings provide proper minute volume.
12. Place hand near outlet tube. Check for proper oxygen flow during the inspiratory phase and for proper machine cycling.
13. Occlude the outlet port, check that the audible pressure limit alarm sounds during the inspiratory phase.
14. Cease BVM ventilation, confirm that the patient is apneic.
15. Attach ventilator tubing to ET tube already in place.
16. Observe chest excursion for several cycles. Confirm chest rise is clearly adequate but not maximal.

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**ALS INTERNSHIP SKILLS SHEET # 30  
AUTOMATIC TRANSPORT VENTILATOR cont.**

17. If the pressure limit alarm sounds from commencement of inspiration, evaluate ventilator mechanics and/or tube placement.
18. If the pressure limit alarm sounds only at end peak of the inspiratory phase, the tidal volume setting is too high. Set tidal volume control to a lower setting.
19. Once the ATV is properly providing automatic ventilation auscultate both midlung fields to confirm adequate inspiratory and expiratory air exchange is being provided.
20. Auscultate over the epigastrium for several cycles to confirm that excessive tidal volume is not resulting in gastric insufflation.

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**ALS INTERNSHIP SKILLS SHEET # 31  
SUPPLEMENTAL OXYGEN THERAPY**

1. Take proper BSI precautions.
2. From the assessment, determine that supplemental oxygen is indicated and what FiO<sub>2</sub> is appropriate.
3. Place the portable unit near the patient's head and open the case for use.
4. Confirm that the patient can maintain a patent airway and adequate spontaneous air exchange, and that the area is safe for use of oxygen.
5. Place the oxygen key on the tank's valve stem open the valve.
6. Check the tank pressure to confirm it is sufficiently full for use.
7. Select the appropriate mask or nasal cannula to deliver the FiO<sub>2</sub> desired and attach the female connector of this device's tubing over the outlet nipple of the portable unit's flowmeter.
8. While observing the gauge, turn the flow valve to the desired LPM setting.
9. Feel to ensure that the oxygen flows from the mask or cannula. If a reservoir mask is being used, occlude the valve between the mask and reservoir to expand the bag fully before attaching it to the patient.
10. If the patient is conscious, explain to the patient what you are going to do.
11. Install the delivery device properly onto the patient's face.
12. Secure it to the patient's head with the loop or elastic band provided.
13. Adjust the liter flow as needed.
14. If available, initiate pulse oximetry.
15. Once on the cot (or backboard) secure the portable unit properly.
16. Monitor the patient's respiration and signs associated with cellular oxygenation.

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**ALS INTERNSHIP SKILLS SHEET # 31  
SUPPLEMENTAL OXYGEN THERAPY cont.**

17. When the patient has been loaded into the ambulance, check that the ambulance oxygen tank valve is open and open the on-board master valve by placing the switch in the "on" position.
18. Check the ambulance oxygen pressure gauge to confirm that the tank and on-board system contain adequate oxygen supply.
19. Set the wall-mounted flow valve (nearest to the patient's head) at the desired liter flow and check that oxygen flows from its outlet nipple.
20. Transfer the mask or cannula tubing from the outlet nipple of the portable unit to that of the wall unit.
21. Turn off the portable unit's oxygen flow.
22. Adjust the liter flow of the on-board unit as needed.
23. When nearing the hospital, turn on the flow from the portable, transfer the mask or cannula tubing from the on-board flowmeter back to the portable unit, and turn "off" the on-board oxygen.
24. Once at the patient's bed in the emergency department or patient's room, open the hospital wall unit to the desired liter flow. Transfer the female connector on the proximal end of the tubing from the mask or cannula from the outlet nipple of the portable unit to that of the hospital wall unit.
25. Shut off the flow from the portable unit.
26. Before leaving the hospital, close the portable tank, bleed off the pressure, clean it, and restock any disposable items used. Change the tank (at 500 psi), and secure the portable unit so it is ready to be used on the next call.
27. When back at the ambulance, check the pressure of the on-board tank. Note if it needs replacement (200 psi). If it does, return to Station 33 and replace it.
28. Close and bleed off the on-board system.
29. Replace any masks, cannula, portable tanks, etc. used from the ambulance stock.

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**ALS INTERNSHIP SKILLS SHEET # 32  
CAROTID SINUS MASSAGE/VALSALVA MANEUVER**

**CSM:**

1. Explain the procedure to the patient and reason for it. Ask patient if they have atherosclerotic disease or any difficulties with their carotid arteries.
2. Ensure that an IV is established and explain the procedure to the patient.
3. Verify and document dysrhythmias.
4. Palpate both carotids separately to ensure that there are equal pulses and no thrills.
5. Listen to the carotid arteries with a stethoscope to assure that there are no bruits.
6. Locate the carotid sinus on the right side of the neck.
7. Turn the patient's head slightly to the left.
8. Massage the right carotid sinus for 10 seconds. Observe EKG monitor and patient for effect.
9. If unsuccessful, wait 2-3 minutes before attempting the other side.
10. If unsuccessful move on to other means, i.e., medications, cardioversion.
11. Advise medical control of treatment results
12. Document procedure in patient report.



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**ALS INTERNSHIP SKILLS SHEET # 32  
CAROTID SINUS MASSAGE/VALSALVA MANEUVER cont.**

**VALSALVA:**

1. Explain procedure to patient and reason for it.
2. Ensure that an IV has been established and is patent.
3. Instruct the patient to take a deep breath.
4. Instruct them to "bear down" as if to move their bowels for as long as they can, 5-10 seconds.
5. Observe EKG monitor and patient for effect.
6. If unsuccessful, attempt it 1-2 more times then move on to other means, i.e., CSM, medications, cardioversion.
7. Advise medical control of procedure.
8. Document procedure in patient report.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 33  
SYNCHRONIZED CARDIOVERSION**

1. Attach the white lead to the patient's upper right chest, attach the red lead to the patient's lower left side, and the remaining black (or green) lead to the patient's upper left chest.
2. Change the "lead select" control on the monitor from "paddles" to "lead II" and evaluate the rhythm display. If the image seems distorted but the patient is responsive, inspect the cable and lead connections. If you initially see asystole, immediately confirm that you have changed the lead select control from the "paddles" position.
3. To view the heart's activity through a second lead simply change the setting on the "lead select" switch from lead II to either lead I or lead III. Be careful not to switch to "paddles" unless you actually have them on the patient's chest.
4. To create a printed record of the cardiac rhythm, simply depress the "record" button on the monitor. Allow at least ten seconds of recording time.
5. If the patient's condition requires treatment by synchronized cardioversion, first be sure that monitoring is being done through the cable leads and that defibrillation electrode pads or conductive pads are in place; or that the skin is protected with conductive gel where the paddles will be placed. If the patient is conscious, consider the use of sedation to lessen the pain and memory of the event.
6. Select the appropriate energy setting and push the "charge" button on the apex paddle to charge the unit, and wait until the light and sound verify that charging has been completed.
7. Push the synchronizer button until the word sync appears on the digital readout and flashes in concert with the EKG. This flashing indicates that the monitor has identified the "r" wave of the QRS complex.
8. Adjust the ECG size button if necessary until the word (SYNC) begins to flash. Without the synchronizer word flashing, the paddles will not be able to discharge.
9. Visually and verbally "clear" the area around the patient just as you would with un-synchronized defibrillation. Once everyone is away from the patient, press the discharge buttons at the front of each paddle and hold them until the energy is delivered.

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**ALS INTERNSHIP SKILLS SHEET # 33  
SYNCHRONIZED CARDIOVERSION cont.**

10. Once the shock is delivered, assess the rhythm and determine if another cardioversion shock is needed. If so, repeat the same steps using the next energy level per protocol.

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**ALS INTERNSHIP SKILLS SHEET # 34  
DEFIBRILLATION**

1. To defibrillate a patient, remove the paddles from their holder and apply conductive gel to the electrode plates on the paddles; or place defibrillation pads or saline-soaked gauze pads on the patient's chest where the paddles will be placed.
2. Place the "sternum" paddle on the patient's right anterior chest wall and place the "apex" paddle to the left of the patient's left nipple.
3. Select the energy level, typically 200 joules, for the first unsynchronized shock in adults and 2 joules per kilogram in children.  
  
**(Note\* when defibrillating or cardioverting a child, the pediatric paddles may be appropriate)**
4. Press the "charge" button on the apex paddle to charge the defibrillator. You should hear an increasing tone and see the amber light flashing. When the tone stops and the amber light stays lit, indicating that the unit is charged, verbally instruct all personnel to "clear" the area around the patient.
5. View the monitor to verify the rhythm and visually scan to ensure that all are clear.
6. Press firmly against the patient's skin with the paddles to ensure good electrical contact, and then press the red buttons at the front of each paddle simultaneously to deliver the shock.
7. After the shock has been delivered, and while you still maintain paddle placement, select the desired energy level for the next shock in the event that one must be delivered. This is usually between 200 and 300 joules for a second shock in adults, and 4 joules per kilogram for second and subsequent shocks in children. Press the charge button to begin the process of re-charging the defibrillator.
8. Reassess the rhythm for any changes. You may wish to check for a carotid pulse while the charging process continues.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 34  
DEFIBRILLATION cont.**

9. If a "shockable" rhythm remains, repeat the "clear" warning and scan to ensure that all personnel are clear and discharge the paddles again. Be sure to maintain firm pressure on the paddles against the patient's skin.
10. Maintain paddle placement and select the desired energy level for the next shock (usually 360 joules in adults for the third shock and 4 joules per kilogram for children). Press the charge button to begin the process of re-charging the defibrillator.
11. Reassess the rhythm for any changes and check for a carotid pulse while charging.
12. If a shockable rhythm remains, repeat the "clear" warning and visually scan, then discharge the paddles again.
13. Re-assess the rhythm and palpate for a carotid pulse.
14. If the patient remains pulseless, re-institute CPR. Continue to follow the appropriate ACLS algorithm for the rhythm being displayed.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 35  
CARDIAC MONITORING**

1. Determine that the scene is safe and take all indicated body substance isolation precautions.
2. Assess the patient's responsiveness and airway, and whether or not the patient is breathing and has a palpable pulse.
3. If the patient is unresponsive and pulseless, begin CPR and bring the monitor/defibrillator to the patient's side.
4. Turn the "lead select" switch to paddles mode. Position the monitor properly.
5. Bare the patient's chest. Place the sternum paddle over the patient's upper right anterior chest wall and place the apex paddle over the lower left anterior chest wall. Apply firm pressure to both paddles.
6. Look at the monitor to assess the rhythm while keeping the paddles and cables as motionless as possible.
7. If the monitor screen shows asystole, verify that the "lead select" switch is in "paddles" mode. Verify asystole by viewing a different axis of the heart. Move one paddle to a different location on the chest and verify if asystole still appears or if fine ventricular fibrillation can be detected.
8. If the rhythm is not one that should be defibrillated or cardioverted, return both paddles to their holders and prepare to monitor through the cabled leads. This provides a better quality of image for the monitor and is less subject to interference when the ambulance is moving.
9. Connect an adhesive electrode to each of the three cable leads and, if the patient is extremely diaphoretic, wipe the skin dry before applying the electrodes.
10. Attach the white lead to the patient's upper right chest, attach the red lead to the patient's lower left side, and the remaining black (or green) lead to the patient's upper left chest.

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**ALS INTERNSHIP SKILLS SHEET # 35**  
**CARDIAC MONITORING cont.**

11. Change the "lead select" control on the monitor from "paddles" to "lead II" and evaluate the rhythm display. If the image seems distorted but the patient is responsive, inspect the cable and lead connections. If you initially see asystole, immediately confirm that you have changed the lead select control from the "paddles" position.
12. To view the heart's activity through a second lead, simply change the setting on the "lead select" switch from lead II to either lead I or lead III. Be careful not to switch to "paddles" unless you actually have them on the patient's chest.
13. To create a printed record of the cardiac rhythm, simply depress the "record" button on the monitor. Allow at least ten seconds of recording time.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 36  
USE OF SEMI-AUTOMATIC DEFIBRILLATOR**

1. Confirm that patient is unresponsive and pulseless and not in a moving vehicle.
2. Begin CPR while the monitor/defibrillator is being brought to the patient's side. Take all appropriate body substance isolation precautions (BSI).
3. Place the monitor/defibrillator close to the patients left ear for better access to the controls and chest.
4. Confirm that adequate CPR is being performed.
5. Turn the monitor on and activate the recorder. Identify yourself and briefly describe the clinical situation and each step as it is performed.
6. Attach the adhesive defibrillation pads to the patient's chest. Attach the defibrillator cables to the adhesive pads.
7. Have CPR stopped and clear everyone from patient contact.
8. Press the "analyze" button.
9. Follow the AED's voice or displayed instructions exactly to prevent any hazards to the operator or patient. Ensure that everyone is clear of the patient when the AED is analyzing.
10. If at any time in the following sequence the "no shock indicated" message is given, assess the patient for a palpable carotid pulse and if it is absent, perform CPR for one minute. Then have the AED re-analyze the patient's rhythm. If the AED signals "no shock indicated" and the patient remains pulseless, resume CPR and have AED re-analyze every minute.
11. If the "shock indicated" message is given, verify that everyone is clear of the patient and that it is safe for the shock to be delivered. If it is not safe, turn off the AED or interrupt the process of delivering a shock. After the safety problem has been corrected set up the AED to analyze the EKG. Push the "shock" button when you have verified it is safe to do so.
12. After the first shock is delivered, push the "analyze" button and keep everyone clear of the patient. Do not check for a palpable carotid pulse at this time.



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**ALS INTERNSHIP SKILLS SHEET # 36  
USE OF SEMI-AUTOMATIC DEFIBRILLATOR cont.**

13. If the AED signals that a second shock is indicated first ensure that everyone is clear of the patient and out of danger, then deliver the shock.
14. After the second shock, again immediately push the "analyze" button and keep everyone clear of the patient. Do not check for a palpable carotid pulse until after the AED advises "no shock" indicated.
15. If the AED calls for a third shock again assure that everyone is clear of the patient, then deliver the shock.
16. After the third shock, do not push the "analyze" button but do check the patient for a palpable carotid pulse.
17. If the patient is pulseless, perform CPR for one minute and then begin the second set of three shocks before again pausing to perform CPR. Use the energy level setting of the last successful shock used. Do not reset the AED to its initial setting.
18. AED certified EMT's must contact medical control for permission to continue with defibrillations if indicated.
19. ALS personnel may bypass the semi-automatic function of the LP300 and operate it manually by entering the code on the appropriate button. They may then select the appropriate energy setting and defibrillate immediately as indicated.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 37  
NON - INVASIVE CARDIAC PACING**

1. Patients with symptomatic bradycardia or heart block that cause decompensation of the patient are candidates for this procedure.
2. Confirm the presence of the dysrhythmia and the patient's hemodynamic status.
3. Explain the procedure to the patient.
4. Establish an IV.
5. Run an ECG strip to document the patient's rhythm. The strip should be labeled with the patient's name when attached to the hospital report.
6. Adjust the ECG size to allow the LP10 to sense the QRS activity.
7. Apply pacing electrodes in the following position; anterior- posterior, place the negative electrode on the left anterior chest, half way between the xyphoid process and the left nipple. Place the positive electrode on the left posterior chest beneath the scapula, lateral to the spine. The placement of the electrodes effects current threshold. The anterior-anterior, is the position that should be used only if the "A-P" position cannot be used. Place the negative electrode on the left chest mid-axillary over the fourth intercostal space. Place the positive electrode on the anterior right chest, sub-clavicular area.
8. Connect the pacing cable to the pace connector on the right side of the LP10.
9. Turn on the red pacer power button.
10. Select the desired pacing rate. The set rate must exceed the patient's current base line rate.
11. Observe the cardioscope for the marker dot on the "R" wave. If the marker is not present, readjust EKG size or select another lead and readjust the size.
12. When the unit is sensing properly, activate the start/stop button. Pacer spikes should be seen with each pacer stimulus.

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**ALS INTERNSHIP SKILLS SHEET # 37  
NON - INVASIVE CARDIAC PACING cont.**

13. Increase the current while observing for electrical pacing capture.
14. Assess for perfusion. Palpate the patient's pulse and assess the patient's blood pressure.
15. Record the EKG and vital signs. Ascertain the patient's tolerance to pacing and consider sedation.
16. Report results to medical control.
17. A copy of the EKG should be attached to both the hospital report and the EMS report.

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**ALS INTERNSHIP SKILLS SHEET # 41  
SELF - ADMINISTERED NITROUS OXIDE (NITRONOX)**

1. Patients who have experienced musculoskeletal trauma, thermal burns, orthopedic injuries or procedures are candidates for the administration of self-administered Nitronox.
2. Contraindications include patients with altered mental status, alcohol intoxication, head injury, abdominal or chest trauma, shock, pneumothorax, COPD, asthma, not responding to verbal commands, and bowel obstruction.
3. Place the patient on oxygen (N/C 4L/M) while preparing the equipment. Maintain good ambient airflow through the patient area during administration of Nitronox to the patient.
4. Invert the tank several times to create vaporization
5. Connect high-pressure line to oxygen source. Open gas valves on nitrous and oxygen.
6. Make sure that the gauges are reading within the green bands, indicating the proper pressure.
7. Instruct the patient on the use and what side effects to expect. The patient's head should be elevated. Coach the patient to keep a tight lip seal around the mouthpiece. Only the patient is to administer Nitronox to his/her self.
8. Encourage the patient to inhale and exhale normally. If at any time the patient feels uncomfortable during the procedure they should simply discontinue use
9. Note the time that the patient starts and completes the use and record the total time on the nitrous time record. These are placed in the case with each new nitrous cylinder.
10. Monitor the patient for changes in level of consciousness and in pain status. Report all findings to medical control.
11. Upon completion of the call, a completed nitrous study form with a copy of the patient report will be sent to the administration office within 12 hrs.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 42  
PNEUMATIC ANTISHOCK GARMENT**

1. Take and maintain necessary precautions - BSI.
2. Perform PASG survey.
3. Remove pants from box and lay out. Make sure all necessary equipment is available, i.e., pants, tubing and pump.
4. Remove patient's clothing and jewelry.
5. If this is a trauma patient, place the pants on the backboard and prepare to align them with the lowest rib as the patient is rolled to their side just before they are placed on the board.
6. If not a trauma patient then the pants can be pulled on under them.
7. Center the pants along the spine line.
8. Wrap the abdominal sections to determine proper placement below the lowest ribs (floating ribs). If the top of the pants are not just below the floating ribs then adjust the pants as necessary.
9. Wrap the leg sections.
10. Connect the tubing to both the abdominal and leg compartments and shut off the abdominal valve.
11. When feasible, determine a baseline set of vital signs before inflating pants.
12. Inflate both leg compartments simultaneously until the Velcro begins to tear and/or the pop off valves' release. Shut off valves leading to leg compartments.
13. Assess vital signs.
14. If necessary, open abdominal valve and inflate abdominal section until Velcro tears or pop off valve releases. Shut off valve to abdominal compartment.
15. Reassess vital signs. Maintain an awareness of respiratory effort. Pressure on the diaphragm from the PSAG may make respiration more difficult in some patients/clinical settings.
16. Periodically check pants to make sure that they do not deflate.

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**ALS INTERNSHIP SKILLS SHEET # 42  
PNEUMATIC ANTISHOCK GARMENT (REMOVAL)**

1. Monitor blood pressure leaving a blood pressure cuff in place.
2. Slowly release pressure in the abdominal compartment by disconnecting tubing and opening the valve. Monitor blood pressure, pulse and mental status.
3. Release pressure in one leg compartment after complete release of abdominal pressure by opening the leg valve. Monitor blood pressure, pulse and mental status.
4. Release pressure in the remaining leg compartment after complete release of opposite leg pressure.
5. Monitor patient throughout, stopping the deflation procedure if: Blood pressure decreases >10mmhg or pulse increases by 10 beats or more. Administer 200-500 cc fluid bolus. If pressure does not stabilize then reinflate last compartment deflated.
6. Leave trousers in place.
7. Evaluate patient.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 43  
ESTABLISHING A PERIPHERAL IV**

1. Obtain order or refer to standing order.
2. Confirm that findings and history indicate establishment of IV, and confirm that there are no contraindications for rapid fluid replacement (if conditions indicate).
3. Determine and select the fluid and quantity, administration set and appropriate catheters.
4. Obtain and open an IV starter kit and prepare strips of tape.
5. Remove IV bag from outer package and check the name and quantity of the IV solution.
6. Check solution expiration date.
7. Check the clarity of the IV solution and that it does not contain any foreign matter or leaks.
8. Check the gtt/min of the administration set, remove the set from the package.
9. Remove the protective seal at the IV bag's outlet port and insert the hard plastic tube from the drip chamber into the IV bag outlet port, so both components are properly assembled and that sterile technique has been followed.
10. Hang the IV bag and, after removing the protective cover from the needle end of the IV tubing, run the IV solution into the drip chamber and IV tubing until each is properly filled. Ensure that the control valve is just below the drip chamber.
11. Shut off the line and protect the needle end of the tubing from contamination.
12. Take/confirm all body substance isolation procedures.
13. Determine the desired potential location for the IV and apply a venous constrictor snugly around the arm proximal to it. If blood is to be drawn when establishing the IV, assemble the necessary vacutainer holder tubes and place them within easy reach.
14. Identify a suitable vein and palpate the specific site selected in order to ensure that a valve does not lie under or just proximal to it.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 43  
ESTABLISHING A PERIPHERAL IV cont.**

15. Once the specific vein and site have been selected, cleanse the area with antiseptic wipe and select a catheter of the appropriate size for the vein
16. After peeling back the package cover and removing the catheter grasp the needle and catheter hub and remove the plastic protector from their tips. Check both for any irregularities and loosen the catheter (without pulling it more than one millimeter or beyond the end of the needle.
17. While anchoring the vein with one finger pressed over it proximally, and one distal to the exact site selected, locate the tip of the needle over or aside the vein. While holding it at about a 45 degree angle, advance it through the skin until it is felt to "pop" through the vein wall.
18. Lower the needle's hub and advance the needle along the inside of the vein for about 1/4 of an inch and then stop.
19. While still firmly grasping the needle hub with one hand, grasp the hub of the catheter with the other hand and slowly and carefully thread it into the vein.
20. Securely hold the catheter from moving between the thumb and first finger of one hand, occlude the vein by pressing on it with another finger of the same hand. Then carefully withdraw the needle fully with the other hand and discard it properly into a sharp's container.
21. Connect the hub of the IV line into the hub of the catheter. Make sure these are sufficiently tightly secured together.
22. While still holding the hub of the catheter with one hand, release the venous constrictor and open the IV line with the other hand.
23. Regardless of the rate desired, slowly increase the flow rate of the IV solution and check that the IV is patent and has not infiltrated.
24. Secure the hub of the needle in place with one or more tape strips, with some slack provided along its length. Also secure the line to a second point on the arm and proximal to the cannulation site with additional strips of tape.
25. Adjust to desired flow rate.



**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 43  
ESTABLISHING A PERIPHERAL IV cont.**

26. Recheck that the solution and infusion rate is the desired/ordered rate and that the IV line continues to be patent and without signs of infiltration after it has been taped in place.
27. Record all pertinent information surrounding the IV start. This should include the time, solution, and total amount of fluid infused, rate, catheter type and size, location and initials of the person starting the IV.
28. If the IV bag becomes near empty at any point, prepare another bag of the same solution. Change the line over to the replacement bag before the first is fully run out and the drip chamber and line are empty.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 44  
INTRAMUSCULAR INJECTION**

1. BSI/PPE
2. Verify drug administration order.
3. Explain procedure to patient and obtain consent.
4. Reconfirm that patient is not allergic to medication.
5. Select correct medication and compute proper dosage.
6. Inspect medication for discoloration, particles and check expiration date.
7. Select correct needle (1 1/2-inch long and 21 gauge).
8. Shake down ampule/properly break ampule.
9. Withdraw medication without contaminating needle.
10. Reconfirm with partners the correct drug and dosage.
11. Choose appropriate site.
12. Cleanse site with alcohol swab.
13. While smoothing out subcutaneous tissue with index finger and thumb, insert needle at 90-degree angle.
14. Aspirate for blood, if blood appears, pull out slightly and aspirate.
15. Inject medication.
16. Safely withdraw needle and dispose of in sharps container.

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**ALS INTERNSHIP SKILLS SHEET # 44  
INTRAMUSCULAR INJECTION cont.**

17. Apply pressure to injection site.
18. Apply adhesive bandage.
19. Monitor patient and document administration of the drug, to include medication, time, and location of site, diameter and length of needle and syringe size, as well as presence or absence of reaction.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 45  
SUBCUTANEOUS INJECTION**

1. Utilize BSI precautions.
2. Verify the drug administration order.
3. Explain the procedure to the patient and obtain his/her consent.
4. Reconfirm that the patient is not allergic to the medication or it's derivatives.
5. Select the correct medication and compute the proper dosage.
6. Inspect the medication for discoloration, particles, and expiration date
7. Select the appropriate syringe and needle for the subcutaneous injection.
8. Remove the medication from the top of the ampule and safely break the ampule.
9. Withdraw the medication without contaminating the needle.
10. Reconfirm the correct medication and dose with partner.
11. Choose the most appropriate site for the injection.
12. Cleanse the site with an alcohol swab.
13. Pinch the skin at the injection site and insert the needle into the skin at approximately 45 degree angle.
14. Aspirate for blood. If blood appears that slightly pull out the needle and aspirate again.
15. Inject the medication.
16. Safely withdraw the needle and dispose of the needle and the syringe in a sharps container.
17. Apply a Band-Aid to the site.
18. Monitor the patient for the effectiveness of the drug and the side effects if any.
19. Document the time, injection site, and syringe and needle size on the patient report.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 46  
INTRAOSSEOUS INFUSION**

1. Prepare equipment (Jamshidi needle, 10-cc syringe with sterile saline, IV solution, administration set, etc.)
2. Locate correct insertion site.
3. Cleanse area with antiseptic swab.
4. Stabilize leg by placing hand under leg (not under injection site).
5. Insert needle at near 90-degree angle with needle pointed towards the foot and away from the epiphyseal plate.
6. Push downwards with a twisting motion until a "pop" is felt and then stop.
7. Remove stylet.
8. Attach syringe and attempt to aspirate then flush with at least 3cc of sterile NSS and observe for swelling around the site.
9. Attach IV tubing and flow fluid/medication.
10. Screw exterior portion of the Jamshidi needle flush with skin and secure in place.
11. Monitor site to ensure patency and correct position.
12. Document procedure fully.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 47  
IV MEDICATIONS**

1. Obtain the order or refer to the standing order.
2. Confirm that findings and history provide indications for the use of the drug and that there are no allergies, adverse drugs or other contraindications excluding its use.
3. Check that a primary IV line has been established, or have one started.
4. Select the supply of the prescribed drug.
5. Select an IV bag of the basic IV solution and number of milliliters ordered for the piggyback.
6. Select an administration set of the desired gtt and a suitable needle for the piggyback.
7. Verify name of the drug on the actual container.
8. Check supply is in appropriate form and, if applicable, the concentration for mixing into or administering by IV drip.
9. Check expiration date of the drug.
10. Check appearance for clarity, absence of foreign matter.
11. Note total milligrams supplied (concentration on hand).
12. Note total milliliters supplied (volume on hand).
13. Note or calculate the total milligrams per milliliter.
14. Identify and separate the part of the order, which prescribes the mixing dose. Determine the specific milligrams ordered as the mixing dose (concentration to be mixed)
15. Check that the volume (total mls) and type of solution in the IV bag selected, is that ordered.
16. Calculate the exact ml (or ml/min) required to administer the desired dose.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 47  
IV MEDICATIONS cont.**

17. Draw up the desired mls of the supply or if a pre-loaded syringe, waste any excess.
18. Recheck the mls in the syringe and mls of the base solution in the IV bag are the specific quantities desired.
19. Cleanse the port and inject the drug from the syringe into the IV piggyback bag.
20. Roll and shake the IV bag to fully dissolve and mix the drug in the IV bag solution.
21. Check that the inserted drug is thoroughly mixed in the IV bag solution and that no precipitate has formed.
22. Fill out and apply a drug label to the back IV bag. Note the drug name, mgs added, time and your initials.
23. Recheck the drug name on the label of the original supply in the mixing supply, in the mixing order, and the drug label you affixed to the IV bag.
24. Recheck the mg of drug placed in the IV bag and ml size of the IV bag into which the drug has been mixed against the mixing order.
25. Determine the mg/ml concentration of the drug now in the IV solution and record it on the bottom of the medication label that was placed on the IV bag. Determine the mg/ml concentration of the drug now in the piggyback IV solution and record it on the bottom of the medication label that was placed on the IV piggyback bag. Cleanse the "Y" port and inject the drug from the syringe into the IV piggyback bag.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 48  
PIGGY BACK INFUSIONS**

1. Obtain the order or refer to the standing order.
2. Confirm that findings and history provide indications for the use of the drug and that there are no allergies, adverse drugs or other contraindications excluding its use.
3. Check that a primary IV line has been established, or have one started.
4. Select the prescribed drug.
5. Select an IV bag and number of milliliters ordered for the piggyback.
6. Select an administration set of the desired gtt/ml and an 18 Ga. needle.
7. Verify name of the drug on the actual container.
8. Check that the medication is in appropriate form and, if applicable, the concentration for mixing into the IV bag.
9. Check expiration date of the drug.
10. Check appearance for clarity, absence of foreign matter.
11. Note total milligrams supplied (concentration on hand).
12. Note total milliliters supplied (volume on hand).
13. Note or calculate the total milligrams per milliliter.
14. Identify and separate the part of the order that prescribes the mixing dose. Determine the specific milligrams ordered as the mixing dose (concentration to be mixed)
15. Check that the volume (total mls) and type of solution in the IV piggyback bag selected, is that which was ordered.
16. Calculate the exact ml (or ml/min) required to administer the desired dose.
17. Draw up the desired mls of the supply.



**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 48  
PIGGY BACK INFUSIONS cont.**

18. Recheck the mls in the syringe and mls of the base solution in the IV bag are the specific quantities desired.
19. Check the clarity and expiration date of the IV bag.
20. Cleanse the "Y" port and inject the drug from the syringe into the IV piggyback bag.
21. Roll and shake the IV bag to fully dissolve and mix the drug in the IV bag solution.
22. Check that the inserted drug is thoroughly mixed in the IV bag solution and that no precipitate has formed.
23. Fill out and apply a drug label to the back of the piggyback IV bag. Note the drug name, mgs added, time and your initials.
24. Recheck the drug name on the label of the original supply in the mixing supply, in the mixing order and the drug label you affixed to the IV bag.
25. Recheck the mg of drug placed in the IV bag and ml size of the IV bag into which the drug has been mixed against the mixing order.
26. Determine the mg/ml concentration of the drug now in the piggyback IV solution and record it on the bottom of the medication label that was placed on the IV piggyback bag. Determine the mg/ml concentration of the drug now in the piggyback IV solution and record it on the bottom of the medication label that was placed on the IV piggyback bag. Cleanse the "Y" port and inject the drug from the syringe into the IV piggyback bag.
27. Recheck the mg of drug placed in the IV bag and ml size of the IV bag into which the drug has been mixed against the mixing order.
28. Determine the mg/ml concentration of the drug now in the piggyback IV solution and record it on the bottom of the medication label that was placed on the IV piggyback bag.

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**ALS INTERNSHIP SKILLS SHEET # 49-A  
SUBLINGUAL AND ORAL MEDICATIONS**

1. Verify correct medication
2. Determine drug, pill size, and concentration and expiration date.
3. With gloved hand, place tablet under patient's tongue.
4. If patient prefers, permit patient to place it there himself.
5. If using metered-dose spray have patient elevate tongue to towards roof of mouth and spray one dose to underneath of tongue.
6. Document medication dose, time, reaction (if any or none) on patient report.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 49-B  
ORAL MEDICATION (LIQUID)**

1. Verify correct medication/concentration
2. Verify expiration date
3. Assess to ensure consciousness and alertness and able to accept oral medication.
4. Confirm that patient is not allergic to medication.
5. Instruct patient to drink and observe that medication is swallowed.
6. Observe for adverse reaction.
7. Document medication, quantity, concentration, time of administration and reaction (if any or none).

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 49C  
ADMINISTRATION OF PILL/CAPSULE**

1. Verify correct medication
2. Ensure that patient is alert and able to swallow.
3. Determine drug, pill size, and concentration and expiration date.
4. Inspect pill/capsule to assure that it is intact and unspoiled.
5. Transfer pill to medication cup and allow patient to put the pill in his own mouth.
6. Have cup of water available to assist in swallowing.
7. Document medication dose, time, reaction (if any or none) on the patient care report.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 50  
TRANSTRACHEAL MEDICATION INSTILLATION**

1. Transtracheal medication instillation is indicated for critically ill patients for whom an IV line cannot be established.
2. Patients EKG should be monitored during procedure.
3. Only Narcan, Atropine, Valium (H<sub>2</sub>O soluble), Epinephrine or Lidocaine can be given transtracheal. Prepare the appropriate medication and draw into a syringe noting that no more than 10ml should be administered at a time.
4. Confirm drug order and dose with medical control and/or partner.
5. Hyperventilate patient, (24 breaths per min).
6. Remove the BVM and administer the medications either down the tube or leave the BVM attached and carefully insert the 18 Ga. needle into the tube at least 1cm below the ET adapter. There is a danger of needle stick injury while inserting the needle through the ET tube. Care must be taken not to puncture the cuff tubing.
7. Monitor the patient for the desired effect.
8. Record time and effects on the medical record.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 51  
EXTERNAL JUGULAR VEIN CANNULATION**

1. External JV cannulation is indicated in a patient who requires peripheral IV cannulation in which an extremity vein cannot be catheterized.
2. Locate landmarks (behind the angle of the jaw downward across the sternocleidomastoid muscle, above the middle third of the clavicle). There may be problems encountered by local trauma, hematoma, or subcutaneous emphysema.
3. Setup equipment, IV fluid and appropriate administration set, IV extension tubing. Catheter size should be at least 18 Ga. or greater.
4. Explain the procedure to the patient.
5. Position the patient with feet elevated.
6. Have the patients head turned away from the side to be cannulated (right side is preferable.) Prep the skin with Providone - iodine.
7. Apply traction on the vein just above the clavicle. Attach a 10cc syringe to an IV catheter. Align the catheter and the point of the catheter toward the feet.
8. With the bevel of the needle upward, puncture the skin using a 30-degree angle. The tip of the needle should enter midway between the angle of the jaw and clavicle, and should be aimed toward the shoulder of the same side as the vein. Aspirate the syringe as the catheter is inserted into the vein. Note a blood flashback.
9. Carefully lower the catheter and advance the Quick-cath approximately 2mm to stabilize the needle in the vein.
10. Advance the catheter off the needle into the vein while removing the needle. Needle and syringe should be disposed of properly.
11. To avoid air entering into the vein, cover the hub with gloved thumb until drawing a blood sample or attaching the infusion tubing to the hub of the catheter.
12. Open the flow to assure the fluid will run freely.
13. Cover site with Providone ointment and dressing
14. Tape catheter and tubing in place with a loop to the tubing to avoid accidental removal of IV.

**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 52  
NEBULIZED MEDICATION ADMINISTRATION**

1. Nebulized medication is indicated for patients with asthma, COPD, who are in need of rapid bronchodilation.
2. Observe BSI and use PPE. Patients often have a productive cough during and after treatment.
3. Determine patient allergies to inhaled medication or sulfa drugs.
4. Explain the procedure to the patient.
5. Take the patients vital signs and connect the patient to the cardiac monitor.
6. Assemble the nebulizer device. Place the bronchodilator of choice with the saline solution in the reservoir of the nebulizer.
7. Connect the device to oxygen source at 8 to 15 LPM.
8. Have the patient inhale normally with their lips forming a tight seal around the mouthpiece of the nebulizer. Have the patient take a slow deep breath with every 4 to 6 breaths.
9. The treatment should continue until the solution is depleted. Patient transport should not be delayed waiting for completion the treatment.
10. Resume supplemental oxygen following nebulization treatment.
11. Monitor the patient, EKG, vital signs, note changes due to medication effect. Treatment should be discontinued if the patient develops tachycardia, ventricular ectopy or paradoxical bronchospasm.

**City of Fairfax Department of Fire and Rescue Services****ALS INTERNSHIP SKILLS SHEET # 53  
COT OPERATIONS (FERNO 29M)**

1. Remove stretcher from vehicle by unlocking floor mounted latch, pulling it straight back and allowing the wheels to drop slowly to the ground. Do not hold release handle when removing. Folding legs are secure when two "clicks" have been heard and legs appear straight and upright. (Note: stretcher is not level at this point due to being in "load" position).
2. A second person holds the head end of the stretcher and squeezes the handle, lowering the head end a short distance, making the stretcher level.
3. A person at each end holding the stretcher, squeezing the handles while simultaneously pushing the stretcher downward until it locks in the lower position lowers stretcher.
4. Position patient on stretcher and make comfortable, if possible. (Note: head end can be raised or lowered; legs can be elevated)
5. Secure patient with minimum of two straps, preferably three. Straps should be snug on patient (like a seat belt).
6. Once patient is on stretcher, a person at each end holding the stretcher raises it, squeezing the handles while simultaneously lifting until it reaches the upright position. (Note: ensure stretcher is not in "load" position while wheeling patient)
7. To prepare to load stretcher into vehicle, the person at head end squeezes the handle and lifts a short distance, raising it into "load" position.
8. Stretcher is pushed into position with "load" wheels on or over the ambulance floor.
9. Position one person at foot end of stretcher and one on the "lock" side of the stretcher. Release lock by pushing toward the head end of the stretcher.
10. The person at foot end lifts the stretcher and squeezes the handle while 2nd person lifts the legs/wheels backward and upward. Stretcher is rolled into vehicle.



**City of Fairfax Department of Fire and Rescue Services**

**ALS INTERNSHIP SKILLS SHEET # 53  
COT OPERATIONS (FERNO 29M) cont.**

11. Stretcher is secured in place with floor mount lock.
12. For more detailed instruction on use of the Ferno 29m stretcher, view the Ferno training video.